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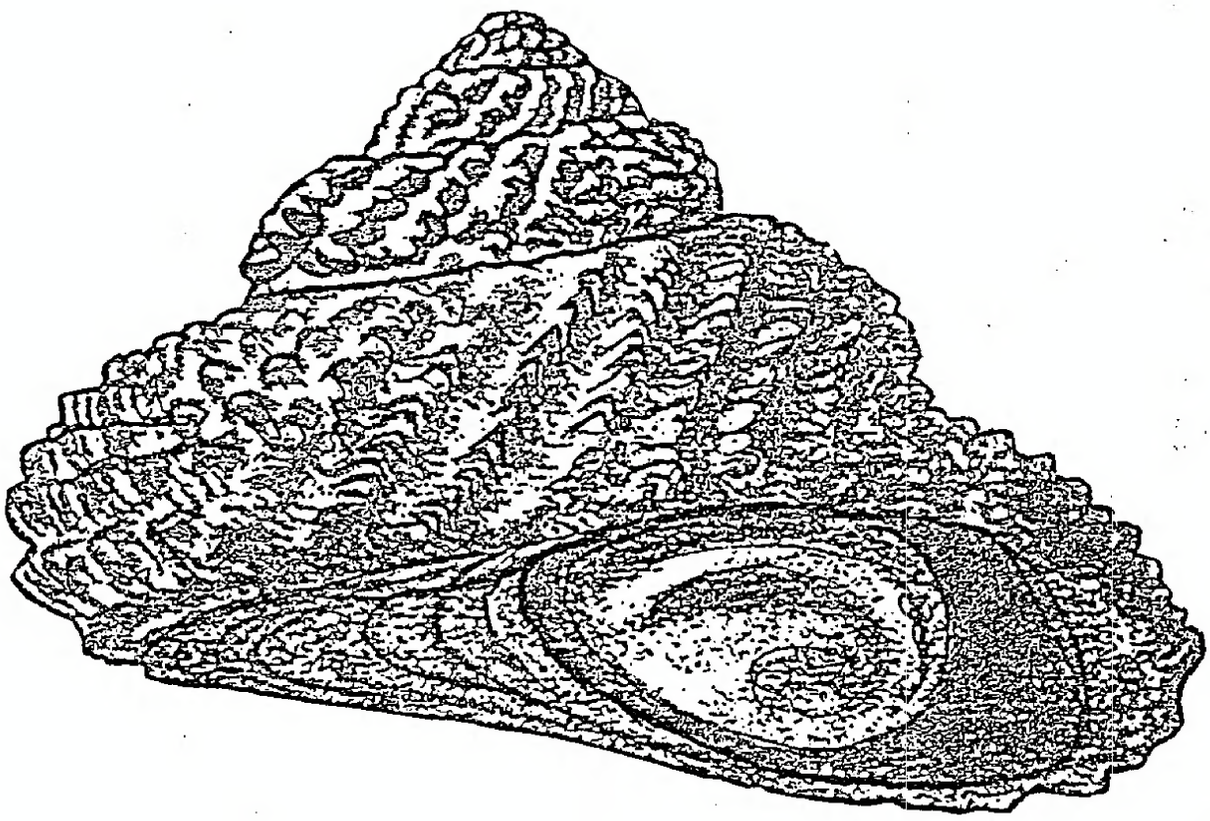

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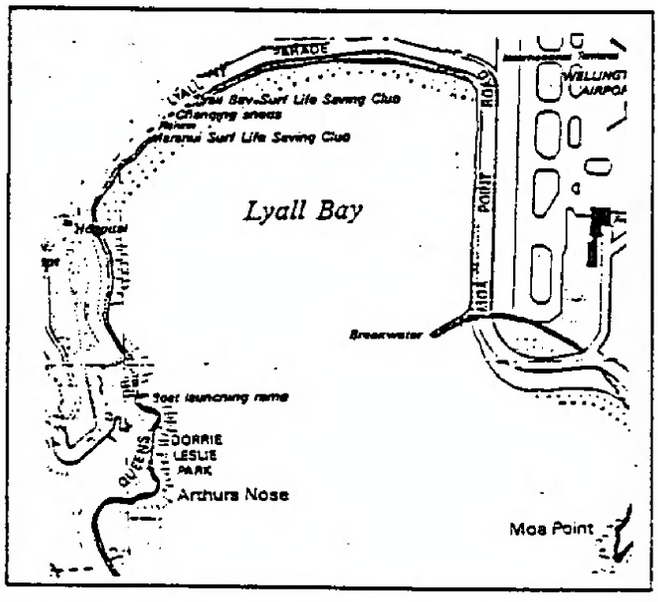
COLLECTING RECORDS FROM LYALL BAY, WELLINGTON

By John Nunn

In 1908 Tom Iredale and Miss Marjorie Mestayer published a list of molluscs collected by them from Lyall Bay, Wellington prior to December 1907. It occurred to me that it could be useful to compile a modern list to see what sort of differences might emerge.

A number of things needed sorting out before work on the modern list could start. Firstly, I wanted to define the collecting area. In this I have been quite conservative in treating the collecting area as being from west of the airport runway breakwater to the rocks by Dorrie Leslie Park.



Secondly, some sort of rule was required as to what constituted a collecting record, I decided that, so long as the specimens were identifiable with certainty, it did not matter whether they were broken, worn or juvenile.

In order to compare the Iredale/Mestayer list with the new one, the scientific names used by them had to be brought up to date. About 90% of the names had changed. Assumptions had to be made in many cases about which species was in fact being listed. For example, Iredale and Mestayer recorded *Zaclys sarissa* (as *Cerithiopsis sarissa*). However, it is now known that the distribution of this species does not extend as far north as Wellington. The closely related form that Iredale and Mestayer presumably referred to was described in 1978 as *Zaclys murdochi* by Bruce Marshall.

Many shells that were thought to be distinct species in these collections made in 1907 and earlier have since been relegated to varieties or even synonyms and, because of this, the number of actual species recorded by Iredale and Mestayer in their 1908 list is, in to-day's terms, artificially high.

Lyall Bay must have changed dramatically over the last eighty or so years. Contemporary photographs are interesting to study from this aspect. In 1907 neither the present seawall nor the airport existed. Now the southern extension of the airport runway virtually bisects the bay. This must surely have significantly affected local inshore conditions.

My own collecting started in earnest in February of 1990. Excluding chitons, 186 species are listed (I could not work up enough enthusiasm to collect and identify chitons! Iredale and Mestayer listed 18 species under the names of the day). Judging from the number of species represented by only a single collecting record, my list must be far from complete. Unfortunately, I did not think to take any notes about seasonality. However, the importance of tides and winds in the occurrence or otherwise of shells has been very apparent For example, *Austrovenus* [formerly *Chione*] *stutchburyi* was not found in the first four months of collecting but in mid June, after nine days of sustained southerly winds, beached shells with animals inside were abundant. Likewise, *Alcithoe arabica* only occurred on one occasion but several specimens in good condition were found within a few metres of each other.

Early June saw some extraordinarily high tides with water coming well up the mown grassy area at Dorrie Leslie Park. These tides produced a number of novelties.

It would be nice to draw some well-argued conclusions about changing sea temperatures illustrated by changes in the molluscan fauna over the last 80 years. However, I am certainly not venturesome enough to try anything of the sort. Some observations about the new list might be worth noting:

* *Crassostrea gigas* has reached Lyall Bay.

* *Cominella virgata* is a dominant member of the intertidal rock community but was apparently not found in 1907 and is even recorded by Powell (1979) as occurring only from "Whangarei to East Cape".

* *Cavolinia trispinosa* was classified by Powell as "Aupourian".

However, any suggestion that these records result from warming waters is countered by the fact that the small bivalves *Borniola decapitata* and *Mysella unidentata*, also now recorded, were classified by Powell as "Forsterian".

Regardless of any conclusions that can or cannot be drawn, the whole exercise has been a lot of fun. Many thanks to Bruce Marshall for generously identifying so many shells that would otherwise only be represented by question marks.

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IREDALE, T.; MESTAYER, M.K. 1908: List of marine Mollusca from Lyall Bay, Wellington, New Zealand. *Transactions and Proceedings of the New Zealand Institute* XL [for 1907]: 410-415.

MARSHALL, B.A. 1978: Cerithiopsidae (Mollusca: Gastropoda) of New Zealand, and a provisional classification of the family. *New Zealand Journal of Zoology* 5: 47-120.

POWELL, A.W.B. 1979: " New Zealand Mollusca". Collins, Auckland *&c.* 500p.

- APPENDIX -

LIST OF GASTROPOD AND BIVALVE SHELLS COLLECTED FROM LYALL BAY, WELLINGTON, IN 1990

[Voucher specimens for all species listed are held in J. Nunn Collection unless otherwise indicated]

The numbers before the listed names refer to page numbers in Powell, 1979.

An asterisk in front indicates that the species was observed live.

An asterisk following the name indicates a new record for Lyall Bay.

BIVALVIA

NUCULANIDAE

356 *Nucula hartvigiana* Pfeiffer, 1864

356 *Nucula nitidula* A. Adams, 1856*

ARCIDAE

364 *Barbatia novaezealandiae* (E.A. Smith, 1915)

PHILOBRYIDAE

367 *Philobrya munita* (Finlay, 1930)*

369 *Lissarca trapezina* (Bernard, 1897)

370 *Cosa costata* (Bernard, 1896)

GLYCYMERIDAE

366 *Glycymeris (Glycymerula) modesta* (Angas, 1879)*

MYTILIDAE

372* *Mytilus edulis aoteanus* Powell, 1958

372 *Perna canaliculus* (Gmelin, 1791)

372* *Aulacomya ater maoriana* (Iredale, 1915)

373 *Modiolus areolatus* (Gould, 1850)*

373 *Xenostrobus pulex* (Lamarck, 1819)

373 *Gregariella barbata* (Reeve, 1858)

374 *Zelithophaga truncata* (Gray, 1843)

PINNIDAE

375 *Atrina* [*pectinata*] *zelandica* (Gray, 1835)

OSTREIDAE

375 *Tiostrea chilensis lutaria* (Hutton, 1873) *

[*Ostrea lutaria* in Powell]

377 *Crassostrea gigas* (Thunberg, 1793) *

PECTINIDAE

377 *Chlamys zelandiae* (Gray, 1843)

[Senior synonym of *C. dieffenbachi*]

PROPEAMUSSIDAE

380 *Cyclochlamys transenna* (Suter, 1913)

[*Cyclopecten* in Powell]

LIMIDAE

382 *Limatula maoria* Finlay, 1926

LUCINIDAE

386 *Divaricella* (*Divalucina*) *huttoniana* (Vanatta, 1901)*

UNGULINIDAE

388 *Diplodonta* (*Zemysina*) *globus* (Finlay, 1926)*

ERYCINIDAE

389* *Melliteryx parva* (Deshayes, 1857)

389 *Lasaea hinemoa* Finlay, 1928

390 *Borniola decapitata* (Powell, 1939)*

391 *Borniola reniformis* (Suter, 1908)*

391 *Arthritica bifurca* (Webster, 1908)*

392 *Myllita* (*Zemyllita*) *stowei* (Hutton, 1873)

KELLIIDAE

393 *Kellia cycladiformis* (Deshayes, 1839)

MONTACUTIDAE

397 *Mysella unidentata* (Odhner, 1924)*

GALEOMMATIDAE

398 *Scintillona zelandica* (Odhner, 1924)*

398 *Vasconiella* (*Divariscintilla*) *maoria* Powell, 1932*

CYAMIIDAE

401 *Kidderia* (*Costokidderia*) *costata* Odhner, 1924*

NEOLEPTONIDAE

403* *Neolepton sanguineum* (Hutton, 1883)*

SPORTELLIDAE

405 *Anisodonta* (*Tahunanuia*) *alata* (Powell, 1952)*

CARDITIDAE

406 *Cardita aoteana* Finlay, 1929

MACTRIDAE

413 *Mactra discors* Gray, 1837

414 *Maorimactra ordinaria* (E.A. Smith, 1898)*

414* *Spisula* (*Crassula*) *aequilateralis* (Deshayes, 1854)

415 *Zenatia acinaces* (Quoy & Gaimard, 1835)*

MESODESMATIDAE

415 *Paphies australis* (Gmelin, 1791)

415* *Paphies* (*Mesodesma*) *s. subtriangulata* (Wood, 1828)

TELLINIDAE

417 *Peronaea gaimardi* (Iredale, 1915)

[*Tellina* (*Peronidia*) in Powell]

417 *Macomona liliana* (Iredale, 1915)

[*Tellina* (*Macomona*) in Powell]

418* *Pseudarcopagia disculus* (Deshayes, 1855)

[*Zearcopagia* in Powell]

PSAMMOBIIDAE

418* *Gari hodgei* Willan, 1980*

418 *Gari* (*Gobraeus*) *stangeri* (Gray, 1843)

SEMELIDAE

420 *Leptomya retiaria* (Hutton, 1885)

VENERIDAE

422* *Dosinia* (*Austrodosinia*) *anus* (Philippi, 1848)

422* *Dosinia* (*Phacosoma*) *subrosea* (Gray, 1835)

422 *Dosinia* (*Phacosoma*) *maorianum* Oliver, 1923

423* *Tawera spissa* (Deshayes, 1835)

425* *Irus* (*Notirus*) *reflexus* (Gray, 1843)

[*Notirus* in Powell]

425* *Paphia* (*Protothaca*) *crassicosta* (Deshayes, 1835)

[*Protothaca* (*Tuangia*) in Powell]

426* *Ruditapes largillierti* (Philippi, 1849)

[*Venerupis* (*Paphirus*) in Powell]

426* *Austrovenus stutchburyi* (Wood, 1828)

[*Chione* in Powell]

427 *Dosina zelandica crebra* (Hutton, 1873)

427 *Bassina yatei* (Gray, 1835)*

CORBULIDAE

428 *Caryocorbula zelandica* Quoy & Gaimard, 1835

[*Corbula* in Powell]

HIATELLIDAE

428 *Hiatella arctica* (Linnaeus, 1767)

428 *Panopea zelandica* Quoy & Gaimard, 1835*

428 *Panopea smithae* Powell, 1950*

MYOCHAMIDAE

432 *Myadora striata* Quoy & Gaimard, 1835

GASTROPODA

SCISSURELLIDAE

034* *Sinezona brevis* (Hedley, 1904)

HALIOTIDAE

036* *Haliotis* (*Paua*) *iris* Gmelin, 1791

037 *Haliotis* (*Sulculus*) *v. virginea* Gmelin, 1791

037* *Haliotis* (*Sulculus*) *australis* Gmelin, 1791

FISSURELLIDAE

038 *Incisura lytteltonensis* (E.A. Smith, 1894)

038 *Emarginula striatula* Quoy & Gaimard, 1834

040 *Tugali elegans* Gray, 1843

040 *Tugali suteri* (Thiele, 1916)*

040* *Scutus breviculus* (Blainville, 1817)

ACMAEIDAE

045 *Radiacmea inconspicua* (Gray, 1843)

046* *Patelloida corticata* (Hutton, 1880)

048 *Notoacmea* (*Parvacmea*) *daedala* (Suter, 1907)

049 *Atalacmea fragilis* (Sowerby, 1823)

PATELLIDAE

042* *Cellana ornata* (Dillwyn, 1817)

042 *Cellana flava* (Hutton, 1873)

042* *Cellana denticulata* (Martyn, 1784)

042* *Cellana radians* (Gmelin, 1791)

044 *Cellana stellifera* (Gmelin, 1791)

SKENEIDAE

077 *Brookula* (*Aequispirella*) *corulum* (Hutton, 1885)

077* *Liotella polypleura* (Hedley, 1904)

TROCHIDAE

052 *Euchelus* (*Herpetopoma*) *bella* (Hutton, 1873)

052* *Melagraphia aethiops* (Gmelin, 1791)

053* *Diloma nigerrima* (Gmelin, 1791)

054* *Diloma* (*Cavodiloma*) *coracina* (Philippi, 1851)

054* *Diloma* (*Fractarmilla*) *bicanaliculata lenior* (Dunker,1844)

054* *Cantharidus opalus opalus* (Martyn, 1784)

054* *Cantharidus purpureus* (Gmelin, 1791)

056 *Micrelenchus caelatus elongatus* (Suter, 1897)

057* *Micrelenchus sanguineus sanguineus* (Gray, 1843)*

057* *Cantharidella tesselata* (A. Adams, 1851)

058* *Trochus* (*Thorista*) *viridis* Gmelin, 1791

058* *Trochus* (*Coelotrochus*) *tiaratus* Quoy & Gaimard, 1835

060 *Maurea tigris tigris* (Gmelin, 1791)

060* *Maurea punctulata* (Martyn, 1784)

065 *Zethalia zelandicum* Hombron & Jacquinot, 1855

065 *Antisolarium egenum* (Gould, 1849)

TURBINIDAE

066 *Astraea heliotropium* (Martyn, 1784)

066* *Turbo smaragdus* Gmelin, 1791

066 *Turbo* (*Modelia*) *granosus* (Martyn, 1784)

067* *Cookia sulcata* (Gmelin, 1791)

LITTORINIDAE

087* *Littorina* (*Nodilittorina*) *cincta* Quoy & Gaimard, 1833

087* *Littorina (N.) unifasciata antipodum* Philippi, 1857

088* *Risellopsis varia* (Hutton, 1873)*

RISSOIDAE

095* *Pusillina* (*Haurakia*) *hamiltoni* Suter, 1898

103* *Pisinna zosterophila* (Webster, 1905)

[*Estea* in Powell]

103* *Pisinna* sp.("*Estea minor*" of authors)

105* *Anabathron hedleyi* (Suter, 1908)*

[*Scrobs* in Powell]

106* *Rissoina chathamensis* (Hutton, 1873)

108* *Merelina lyalliana* (Suter, 1898)

112 *Subonoba insculpta* (Murdoch, 1905)

112 *Subonoba foveauxiana* (Suter, 1898)

112 *Subonoba fumata* (Suter, 1898)

EATONIELLIDAE

089* *Eatoniella* (*Abscindostoma*) *lutea* (Suter, 1908)*

090 *Eatoniella* (*A.*) *albocolumella* Ponder, 1965*

090* *Eatoniella* (*Albosabula*) *lampra* (Suter, 1908)*

092* *Eatoniella (Dardanula) olivacea* (Hutton, 1882)

IRAVADIIDAE

110 *Nozeba emarginata* (Hutton, 1885)

VITRINELLIDAE

074 *Elachorbis subtatei* (Suter, 1907)

FAMILY UNCERTAIN

248 aff. *Zerotula* sp.

CAECIDAE

128 *Caecum digitulum* Hedley, 1904

POTAMIDIDAE

131* *Zeacumantus subcarinatus* (Sowerby, 1855)

TURRITELLIDAE

125* *Maoricolpus r. roseus* (Quoy & Gaimard, 1834)

STRUTHIOLARIIDAE

142 *Struthiolaria papulosa* (Martyn, 1784)

CALYPTRAEIDAE

148* *Sigapatella novaezelandiae* (Lesson, 1831)

149 *Crepidula monoxyla* (Lesson, 1831)

[*Maoricrypta (Zeacrypta)* in Powell]

LAMELLARIIDAE

150 *Lamellaria ophione* Gray, 1850*

TRICHOTROPIDAE

147 *Trichosirius inornatus* (Hutton, 1873)*

TRIVIIDAE

152 *Trivia (Niveria) merces* (Iredale, 1924)*

[B. & B. Dunn Collection]

NATICIDAE

154* *Tanea zelandica* (Quoy & Gaimard, 1832)

CASSIDAE

159 *Semicassis pyrum* (Lamarck, 1822)*

RANELLIDAE

163* *Cabestana spengleri* (Perry, 1811)*

166 *Argobuccinum pustulosum tumidum* (Dunker, 1862)

CERITHIOPSIDAE

135 *Zaclys murdochi* Marshall, 1978

136 *Prolixodens infracolor* (Laseron, 1951)*

EULIMIDAE

139 *Eulima (Fusceulima) murdochi* (Hedley, 1904)*

EPITONIIDAE

251* *Epitonium (Hyaloscala) jukesianum* (Forbes, 1852)

BUCCINIDAE

192 *Cominella (Cominella) adspersa* (Brugière, 1789)

192* *Cominella (Cominella) maculosa* (Martyn, 1784)

193* *Cominella (Josepha) v. virgata* H. & A. Adams, 1853

196* *Austrofusus glans* (Röding, 1798)

198 *Buccinulum linea linea* (Martyn, 1784)

199 *Buccinulum vittatum littorinoides* (Reeve, 1846)*

[including the *"mestayerae"* form]

200 *Penion sulcatus* (Lamarck, 1816)

COLUMBELLIDAE

183 *Parula paxillus* (Murdoch, 1905)*

185 *Zemitrella choava* (Reeve, 1859)

186* *Zemitrella rosea* (Hutton, 1873)*

188 *Macrozafra nodicincta* (Suter, 1899)

188 *Macrozafra subabnormis* (Suter, 1899)

MURICIDAE

174 *Xymene ambiguus* (Phillipi, 1844)

174 *Xymene gouldi* (Cossman, 1903)*

175* *Xymene traversi* (Hutton, 1873)

179* *Thais orbita* (Gmelin, 1791)

180* *Lepsiella scobina* (Quoy & Gaimard, 1833)

180 *Lepsiella albomarginata* (Deshayes, 1839)

180* *Haustrum haustorium* (Gmelin, 1791)

180 *Lepsithais lacunosus* (Brugière, 1789)

COSTELLARIIDAE

216 *Austromitra rubiginosa* (Hutton, 1873)

MARGINELLIDAE

222* *Volvarinella cairoma* Brookes, 1924*

OLIVIDAE

208 *Amalda (Baryspira) australis* (Sowerby, 1830)

208 *Amalda (Baryspira) depressa* (Sowerby, 1859)

208 *Amalda (Baryspira) mucronata* (Sowerby, 1830)

VOLUTIDAE

211 *Alcithoe arabica* (Gmelin, 1791)*

[senior synonym of *swainsoni*]

TEREBRIDAE

246 *Duplicaria (Pervicacia) tristis* (Deshayes, 1859)

TURRIDAE

237 *Neoguraleus sinclairii* (Gillies, 1882)

238 *Neoguraleus lyallensis* (Murdoch, 1905)

238 *Neoguraleus murdochi* (Finlay, 1924)*

241 *Liracraea odhneri* Powell, 1942

PHILINIDAE

272 *Philine powelli* Rudman, 1970*

RETUSIDAE

276 *Retusa (Retusa) oruaensis* (Webster, 1908)*

PYRAMIDELLIDAE

257 *Chemnitzia zelandica* Hutton, 1873

[*Turbonilla (Chemnitzia)* in Powell]

259 *Striarcana cryptolira* Laws, 1937*

[*Turbonilla (Striarcana)* in Powell]

260 *Eulimella* sp.A*

260 *Eulimella* sp.B*

261 *Gumina* sp. cf. *dolichostoma* (Suter, 1908)*

265 *Evalea* sp.*

265 *Linopyrga rugata* (Hutton, 1886)

265 *Agatha georgiana* (Hutton, 1885)*

CAVOLINIDAE

278 *Cavolinia (Diacria) trispinosa* (Lesueur, 1821)*

SIPHONARIIDAE

292 *Siphonaria australis* Quoy & Gaimard, 1833

293 *Benhamina obliquata* (Sowerby, 1825)

AMPHIBOLIDAE

294 *Amphibola crenata* (Gmelin, 1791)

ELLOBIIDAE

294 *Marinula filholi* Hutton, 1878

SPECIES RECORDED BY IREDALE & MESTAYER BUT NOT LISTED ABOVE

[The 1908 names have been "modernised"]

363 *Solemya parkinsoni* E.A. Smith, 1874

365 *Tucetona* [*Glycymeris*] *laticostata* (Quoy & Gaimard, 1835)

367 *Philobrya meleagrina* (Bernard, 1896)

370 *Cosa filholi* (Bernard, 1897)

371 *Verticipronus mytilus* Hedley, 1904

376 *Saccostrea glomerata* (Gould, 1850)

378 *Chlamys gemmulata* (Reeve, 1853)

418 *Hiatula nitida* (Gray, 1843)

432 *Myadora novaezealandiae* E.A. Smith, 1880

035 *Sinezona lyallensis* (Finlay, 1927)

035 *Scissurona rosea* (Hedley, 1904)

048 *Notoacmea (Conacmea) parviconoidea* (Suter, 1907)

053 *Diloma (Fractarmilla) zelandica* (Quoy & Gaimard, 1834)

056 *Micrelenchus dilatatus* (Sowerby, 1870)

060 *Thoristella oppressa* (Hutton, 1878)

061 *Maurea selecta* (Dillwyn, 1817)

092 *Eatoniella (Dardanula) limbata* (Hutton, 1883)

093 *Eatoniella (Dardanula) roseola* (Iredale, 1915)

099 *Powellisetia microstriata* (Murdoch, 1905)

101 *Pisinna impressa* (Hutton, 1885)

102 *Pisinna subfusca* (Hutton, 1873)

144 *Zeradina (Radinista) corrugata* (Hedley, 1904)

149 *Zegalerus tenuis* (Gray, 1867)

282 *Berthella ornata* (Cheeseman, 1878)

291 *Gadinalea conica* (Angas, 1867)

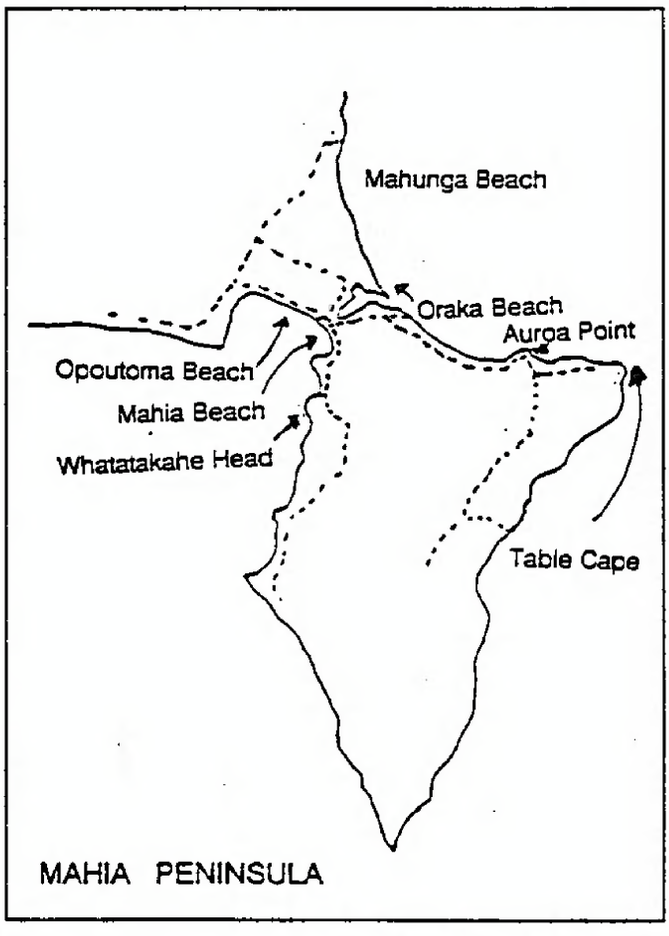
295 *Leuconopsis obsoleta* (Hutton, 1878)

MAHIA REVISITED

By Jenny Raven

For the last two years, just prior to Christmas, I have visited the Mahia Peninsula. Mahia is a great shell collecting spot if you have three or more days to spare. It seems to mark the southernmost boundary for collecting a number of far Northern shells, and I never fail to find something of interest.

Reports on previous trips by members to Mahia can be found in *Cookia* Vol. 5, No. 3 - full listing of a Shell Club field trip - and in Vol. 6, No.1 and Vol.4, Nos 2 and 3.



The most interesting place and a must to visit is Auroa Point. In *Cookia* Vol. 5, No.3, this this area was incorrectly called Cemetery Point, but, having been a member of this earlier trip, I can attest that both places are one and the same. This is an expanse of gigantic mudstone slabs dipping steeply out into the sea. The beach here consists mainly of gravel and ground-up shell, not sand like the remainder of this northern coastline. Here the ardent shell collector gets down on hands and knees and then slowly sifts through all the shell, rubble and dead seaweed. *Trivia merces* is invariably found by this human vacuum cleaner method and most times I have also come up with *Mitra carbonaria* although condition varies. Other items of interest that I have found here include *Buccinulum fuscozonatum, Cantharidus opalus* with particularly high spires, slit limpets, *Muricopsis octagonus, Maurea pellucida* and *Alcithoe fusus.* Last year I also found a small *Maurea tigris,* a large, perfect *Maurea osbornei* and a new listing, not mentioned in previous reports, was a broken *Austrosassia parkinsonia.*

Also usually good for washups is Oraka beach. Invariably there are large, good quality, bright orange examples of *Cookia* (just what you've all been wanting!). Present the last two times were *Modelia granosus, Cabestana spengleri, Maurea punctulata, M. pellucida* and *Alcithoe fusus.*

Under any of the large, low-tide boulders along the Mahia coastline, *Buccinulum colensoi* can almost always be found. At the southern end of Mahia beach (marked Whatatakahe Point on the maps) I was interested to see it present in a variety of colour forms - some being the usual grey, others a mottled purplish colour or with brown and white bands. On the surface of the mudstone reef in the same area an occasional live *Penion sulcata* was seen. These were heavy, well knobbed , deeply lineated and purple/brown in colour.

Opoutama and Mahunga (Pukenui) beaches form the long stretches that link Mahia to the mainland. Some good washups have been recorded at Mahunga (Duffy, 1969) but, to date, I have never found anything of interest. At the southern end, seaweed and broken shells accumulate amongst the stones and the outlet to a small stream. Worn *Alcithoe fusus* seem relatively common. On Mahia beach, last time, I picked up a large double *Divaricella huttoniana* and an average *Gari lineolata*. I also thought I had found my long-sought-after *Xenophalium labiatum*. Although small, it had all the looks of one, polished and a nice chocolate-cream colour with smooth tapered spire. However, it did not have the denticulate inner lip that Powell requires so presumably it is just another old common *pyrum*. I did notice, though, that other pieces of *Xenophalium* found at Mahia had a similar colouring and shape, quite different from our Wellington west coast examples of *pyrum*.

I also made the walk out round Table Cape from the end of the road near Auroa Point. There were no live or washed up shells of particular note but I did note a spectacular, extremely wide reef exposed at the low tide. There are numerous other collecting areas at Mahia as described in the earlier *Cookia* reports. Of particular interest with Mahia is that one can get good collecting at both the low and high tides, along with plenty of good exercise and fresh air. Anyone interested in a trip next year?

BACKGROUND READING

BOSWELL, D.J. 1981: Shells collected at Mahia beach. *Cookia* 4 (3): 20-22.

DUFFY, R. 1969: Mahunga beach washup. *Poirieria* 5 (1): 3-5, 1 map.

LAKEMAN, P. 1985: A trip to Mahia Peninsula, March 1985. *Cookia* 6 (1): 10-11.

SCOTT, E. 1983: Trip to Mahia Peninsula, Easter weekend 1983. *Cookia* 5 (3): 27-38, 1 map.

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SHELLING AT PARAPARAUMU BEACH

By Pat Lakeman

At the end of November 1990 I enjoyed a week staying at Paraparaumu Beach with my mother. I had been particularly busy at work and was seeking only a quiet week of doing very little except enjoying some fresh air and leisurely walks. Staying just a short distance from both the shops and the beach meant that every day had enough good weather in it for us to go out and enjoy it.

Shelling was not a major objective since I had heard our local shell club members routinely say that nothing of much interest had washed up for a long time. But when on any beach or coastline, I have to look - just in case! I even welcome a bit of bad weather in the hope that the stirred up seas will cast ashore something a bit special - and that was just what happened ...

There had been nothing much to find on the first few days, but midweek the offshore sea was brown and murky and high tides were coming right up to the dunes. By Thursday and particularly on Friday 30 November, the high tide washup was really extensive - much driftwood and thick with live helmets *(Xenophalium pyrum pyrum)*, ostrich foot *(Struthiolaria papulosa)* also plentiful, and pieces of timber with what had been thriving communities of common barnacles. The most notable finds for me were four *Maurea waikanae*, of good size (all about 35 mm high and 35-40 mm wide). Three have small holes that may have begun as puncture marks but one is quite perfect. By comparison, I saw very few of the supposedly more abundant Maurea selecta, and only one of a quality worth keeping.

In the Buccinidae, I had to find a couple of small *Penion sulcatus* to help me distinguish a nice example of *Aeneator attenuatus*. And *Austrofusus*, which I used to think were ugly and boring little shells on the Kapiti coast, produced three specimens which I have identified as *A. glans* but which show a range of sculpture which takes one of them surprisingly close to the appearance of *A. chathamensis*.

Other not uncommon but good condition finds were *Amalda australis* and A. *mucronata*, *Bassina yatei*, *Resania lanceolata*, *Maoricolpus roseus roseus*, *Muricopsis octagonus*, *Xymene ambiguus* (female), and juvenile *Astraea heliotropium*. Large examples of *Ostrea chariottae* were also found, one (120 mm in height) having beautiful dark red/purple colouring.

Another highlight of visiting Paraparaumu is the opportunity of seeing local club members. On the weekends when Graham was able to come and join us, we visited Hugo Hollis and Gracie and Trevor Davies. Their hospitality was much appreciated. A stroll in the sun around the Davies' garden is always a treat (I'm a keen amateur gardener) but makes me envy the climate which Paraparaumu enjoys. At Hugo's we had the privilege of seeing what is clearly a world class collection of shells, of such richness and variety that it really defies words. But just when mental comparisons make you feel pretty disparaging about the shells you have got back home, Hugo reminds you that his collection started from Paraparaumu Beach. A tray of his best local finds is prominently displayed, and in no time at all you are itching to get back to the beach, where a *Globisinum drewi* might just have rolled in.

KAPITI ISLAND: DIVING AND SHELL COLLECTING

By Don Watson

Kapiti Island lies off the west coast of the North Island not too far north of Wellington. Since I have visited Kapiti on holidays the bush has grown thicker than it used to be thirty years ago. I had many a holiday at Webbers Bay, usually for a fortnight, when I was a boy of eight to ten years old and I have many memories of that time. While sleeping in the bach you would hear a scuttle and a rat would run across your blankets. There were so many of them that they would even appear in the daylight, and there was a Maori man who would shoot them outside the fowl run. Lying in bed at night you could hear the kiwis calling and, at daybreak, the birds used to sound great echoing down the valley. All the cooking was done outside. If you used forks, spoons or anything shiney, you didn't leave them on the ground because the wekas would steal them and hide them away. My father's boat was a double-ender and could not go very fast. They called it "The Sudden Jerk". When they were going to Kapiti, they would launch the boat at the Otaki River mouth and it would take them an hour to get there. As for me, I would be as sick as a dog, but I would still go the next time!

DIVING AROUND KAPITI

Under the sea around Kapiti is very beautiful. While diving amongst the seaweeds, a lot of boulders can be seen. The colours all around are very striking. There are many reef fishes to be seen as well. One always has plenty of company swimming alongside while diving. Blue Cod, Terakihi, Blue Mao Mao and Butterfish are always there. My son and I only take the odd Butterfish and never touch the others. It is really quite fascinating having the fish following one around. Crayfish can be found in cracks and holes, and I have seen a few of the giant Green Crayfish as well. But, of course, one is always looking for something different. I have seen beautiful mauve and white nudibranchs *(Jason mirabilis)* which just swim round over the rocks as though nothing would eat them. Maybe they taste horrible! One is always looking for that shell that hasn't been seen before. They are around somewhere (like a *Pterynotus eos* or a *Xenophora neozelanica*)!

PREPARING THE BOAT AND DIVING GEAR FOR A TRIP

Getting out there takes quite a bit of organising. First, it really means getting up early in morning, like at daylight. We have to check a few glasshouses and, if it's going to be hot, we might have to do a bit of watering and put some air on the houses. Next we've got to get some dinner ready, take the truck down to the boatshed and hook it up to the boat trailer, check the tyres, make sure there's enough petrol and oil, collect up knives, bait, warm clothing in case a southerly turns up and get some fishing gear sorted out as well. All the diving gear, wet suit, weight belt, gloves, hood, fins, mask, boots, catch bag, dive flag, and knife has to be packed up. The dive tanks have to be taken out of the cupboard, have the regulators attached and the air supply checked - because there's nothing worse than getting out in the boat and finding you haven't got enough air for diving. Once we went over to the East Coast. It was about a three hour drive, and when I geared up for a dive I found that I didn't have much air in the tank. I must have knocked the valve on the dive tank when I was loading up the truck. Imagine the cursing! - so I don't get caught that way again. When I go diving, I always take a few containers for shells. They always come in handy for something.

And after I've done all these things and checked over all the gear, I yell "Come on, you guys, let's hit the road!" We launch the boat at the Waikanae Boating Club, using the Club's tractor because that's much easier if the sand is a bit soft. Our day of shelling has begun...

SHELLS COLLECTED AT KAPITI ISLAND

Chlamys dieffenbachi: Lives from shallow water to about 30m. Most are found living among tube worm mounds and in dead *Glycymeris* shells. They have a coarse sponge around them. *C. zeelandona* is in the same habitat.

Chlamys gemmulata: Lives from about 25 m onwards. They have finer spines on the shell. It is a beautiful species with fantastic colours. The sponge that is around the shell is a lot finer, and more slimey. They also live inside dead *Glycymeris* shells that are lying on the bottom, as well as among tube worm colonies. Diving deeper, you come across the Orange Lace Coral and that's where you find the bigger *gemmulata.*

Mesopeplum convexum: Swims by opening and shutting its shell, moving quite fast. They live in coarse gritty or pebbly areas. The yellow coloured ones are harder to find.

Maurea tigris and *M. punctulata:* Live from shallow water to very deep water under ledges and stones. They feed on the algae on the rocks. Seeming to like tidal areas, they are also found on the sponge *Ancorina alata.*

Maurea pellucida: Lives in the same sort of area as *M. tigris* and *M. punctulata,* but I am not sure what they feed on. Diving down to 30 or 40 metres, I have seen them on tube worm mounds. The specimens from Kapiti Island have the best colours I have ever seen foor this species.

Maurea osbornei: Collected live from Kapiti Island and living on *Ancorina* sponge. They actually feed on the sponge which is grey in colour, with big dished-out hollows, and grows to about 600 mm across.

Maurea waikanae: I have not got a live one yet from diving but I have dredged a live one on the west side of the island and got a few broken ones at about 80 m. They seem to like two types of bottom: deepwater ones live in shelly and gritty troughs and they are also on muddy bottoms.

Muricopsis [*Murex*] *octogonus:* I have only dredged two live specimens, in a shelly trough on the west side of the island out from the Arapawhiti rocks in 80 m, but one has to get the tide slack to dredge there properly.

Charonia lampax capax/rubicunda: Found alive, they were living on rocks at about 23 m. Both species were found not far from each other. The limpet *Radiacmea inconspicua* was found living on a *Charonia lampax capax.*

SPECIES FOUND ON ONE DIVE AT TOKAMAPUNA ISLAND 1990 [all found live]

Maurea tigris
Maurea punctulata
Maurea pellucida
Maurea osbornei
Mayena australasia
Monoplex parthenopeus
Mitra carbonaria
Buccinulum lineum
Astraea heliotropium
Chlamys dieffenbachi
Chlamys zeelandona

It was a great thrill to collect these shells since four of them were species that I had not found before.

SPECIES LIST

The following list [arranged in alphabetical order], though obviously not complete, gives a good indication of the richness of the shell life off Kapiti.

GASTROPODA

Amalda australis
Amalda mucronata
Amalda novaezelandiae
Antisolariumm egenum
Astraea heliotropum
Austrofusus glans
Austromitra rubiginosa
Buccinulum lineum
Cabestana spengleri
Cantharidus opalus
Cantharidus pupureus
Charonia lampas capax
Charonia lampas rubicunda
Cookia sulcatus
Diloma coracina
Eatoniella limbata
Eatoniella olivacea
Emarginula striatula

Epitonium minora [?]
Epitonium jukesianum
Eulima perspicua
Glaphyrina vulpecula
Haliotis australis
Haliotis iris
Haliotis virginea
Incisura lytteltonensis
Lamellaria cerebroides
Linopyrga rugata
Liotella polypleura
Maoricolpus roseus
Maoricrypta monoxyla
Marginella cairoma
Marinula filholi
Maurea pellucida
Maurea punctulata
Maurea osbornei
Mayena australasiae
Merelina lyalliana
Micrelenchus sanguineus
Micrelenchus tenebrosus
Mitra carbonaria
Mitra zelandica
Monodilepas monolifera
Muricopsis octogonus
Penion sulcatus
Phenatoma rosea
Philine powelli
Poirieria zelandica
Powellisetia subtenuis
Rissoa hamiltoni
Rissoina chathamensis
Rhizorus nesentus
Sigapatella novaezelandiae
Tanea zelandica
Triphora fascelina aupouria
Trochus tiaratus
Trochus viridus
Turbo granulosus
Turbo smaragdus
Tugali suteri
Turbonilla (Chemnitzia) sp.
Turbonilla (Chemnitzia) sp.
Xymene huttoni
Xymene mortenseni caudatinus
Zeacolpus blacki
Zeacolpus vitattus
Zeradina producta

BIVALVIA

Acar sandersonae
Anisodonta (Tahunanuia) alata
Barbatia novaezealandiae
Borniola reniformis
Cardita aoteana
Chlamys dieffenbachi
Chlamys gemmulata
Chlamys zeelandona
Corbula zelandica
Cuspidaria trailli
Diplodonta globus
Diplodonta striatula
Divaricella huttoniana
Dosinia lambata
Dosinia maoriana
Dosinia subrosea
Dosinia zelandica
Ennucula strangei
Gari stangeri
Glycymeris laticostata
Glycymeris modesta
Gregariella barbata
Hiatella arctica
Leptomya retiaria
Limatula maoria
Lithophaga truncata
Mellipteryx parva
Mesopeplum convexum
Modiolus areolatus
Myadora novaezelandiae
Myadora striata
Myllita stowei
Mysella unidentata
Panopea zelandica
Pecten novaezelandiae
Pleuromeris zelandica
Saccella bellula
Scalpomactra scalpellum
Tawera spissa
Tellina charlottae
Tellina edgari
Thracia australica novozelandica
Thracia vegrandis

BRACHIOPODA

Terebratella [*Waltonia*] *inconspicua*

GREAT BARRIER ISLAND HOLIDAY

By Jenny Raven

February 1990 saw Pat, Graham and me link up for a week's holiday on Great Barrier Island. Our fourth member, unfortunately, had to pull out at the last minute. We had a small self-contained flat for the week attached to the Puhutukawa Lodge at Puriri Bay, Tryphena. Some shell collecting interspersed with relaxation was certainly on the menu for Pat and myself although we had left with little advance information on where to find the best shells.

A walk was in order on the first evening just to gain our bearings and, although we weren't meant to be looking for shells, alongside the road on the south side of Pa Point where the highest tides would reach Pat found a magnificent seahorse. It spent the remainder of the week pegged to the clothesline on our verhandah, mainly to dry out but also to keep it away from the clutches of the owner's pet peacock!

On our first full day the Lodge owner offered (for a reasonable fee) to drop us across on the coast on the other side of the island. Our dropping-off point was a headland separating two long sandy beaches which the Islanders called the Pumpkin (Pitokuku Island on the map). This interesting piece of land is like many other along this coast with the island being separated from the mainland at high tide but linked at the low. The tide was in when we arrived, and I think I was the smart one who suggested a walk north along Kaitoke Beach - a long, long, stretch of soft, white sand with not another soul in sight. After 45 minutes we crossed the Kaitoke creek at the far end. Little to interest shell collectors on this beach - some *Zeacolpus pagoda, Tawera spissa, Chlamys zelandiae* and the occasional *Alcithoe* mainly around the creek mouth. A swim was a necessity on our return after the long hot walk.

With the tide out the island was now linked with interesting rocks and caves exposed. Lots of succulent-looking mussels perched appetisingly out of the water on many of the rocks. Still no shells of great note appeared or, at least, we didn't see them. Prior to leaving, we climbed over the headland and down on to the beach on the southern side, Medlands Beach. Across the creek at the far side was another linked island. This, and the small beach on the other side, looked more interesting for shells, and it was obvious that we would need to return another day.

The next day we hired a car. This was the day to travel as far north as the roads would take us, which is where we were when disaster struck - a puncture at Kawa Bay (on the southern end of Katherine Bay, north of Fitzroy) - and then, double disaster - no spare! A phone call to Tryphena advised that we would have to wait two hours for help to arrive. At least we were at a beach. We wandered around the coast coming across some old graves from the S.S. "Wairarapa" and, this time, lots of succulent-looking rock oysters. No collectable shells but a swim and we returned to the car. Our spare could not be readily fixed so our help offered to swap cars which we gratefully did and, waving goodbye, we headed off to Whangapoua Beach back on the East Coast.

Here we found another beach of long white sand and a linked island at the northern end. More old graves from the wreck of the "Wairarapa" lay in silence up on the hill slope looking out at the large island called Rakitu which rose impressively out of the sea some distance offshore. We made for the little linked island called Tapuwai Point on the map. Graham fished while Pat and I explored.

The tide was well out. A large rockpool, about a metre deep, on the southern side of the point was full of hermit crabs wearing shells of all kinds. *Zeacolpus pagoda* was the most popular hat. *Phenatoma zelandica* and *Phenatoma rosea* hats were also noted along with a golden-coloured *Buccinulum.* I put on my diving mask and peered into the clear water. A flash of orange caught my attention - a live juvenile *Philippia lutea,* the first live one I had ever found. The hunt was on for more! No more were seen that day but a couple of live *Cabestana spengleri* and *Mayena australasia* were noted sitting out of the water on the low tide rocks. It was getting late and we had a long distance to travel back. However, there was enough of interest here to make us decide that we would like to return before the end of the week if we could. A quick look in at Port Fitzroy and a long, cool glass of beer was all that we could manage here before our journey back down the Island. Of note, a short distance along the way our earlier rental car was found abandoned with the tyre completely flat!

The next day saw us back at Medlands eager to explore the southern end round to the large headland (Shakespeare Point). The tide was was dropping as we clambered out over large boulders towards the Point. Here the topography changed. Large flat platforms became exposed as the tide receded, leaving narrow ledges and deep rockpools. Water was running off everywhere, and the rocks were covered in a bright psychodelic green moss-like

seaweed. The sea crashed against the reef threatening to come over and trap us against the steep cliffs at the back. Crabs were running everywhere. Gingerly we made our way along, watching for any big waves. This slippery weed did not make for speedy travel. I was glad that the sea was going down! We stayed close to the big rocks under the cliffs. Had they fallen off the top? The way started to get considerably rougher and, although we peered down numerous ledges, nothing of great interest came to light. We retraced our way back across this erie moonscape.

Back on the edge of the Point, a large pool about four metres deep and wide lay exposed in the sun. Inside, dozens of reasonably-large fish were swimming around in a natural aquarium, their exit completely cut off by the tide. High up on a boulder Pat found a live *Charonia.* His spire was very eroded, so we left him to sunbathe. Amongst the smaller boulders at the water's edge, live *Mayena* started appearing. They were a deep maroon colour and in good condition although a little small to collect. Generally they were tucked in just under the boulders and amongst the weed.

Back nearer the beach the shallow rockpools were again revealing lots of hermit crabs. I picked up one wearing a *Nassarius spiratus.* Other hermit crab finds here and around the small island some hundred metres away included *Muricopsis espinosus mariae, Maurea punctulata, Duplicaria tristis, Cominella quoyana, Buccinulum vittata* and *Micrelenchus sanguineus.* Out on the island live *Cabestana spengleri* were seen and away up high, again having a sunbathe, the most perfect live *Monoplex parthenopeus.* A swim round the island finished an interesting day. Lots of little blue-coloured fish danced in front of my mask as if trying to lure me, only a beginner at the game, out deeper - did they have a den of live *Charonia* to show me? I resisted the challenge.

A rest day followed where we fished off Pa Point and went for a walk, while the tide was up, to the wharf at the south end of the bay. By the afternoon the tide had receded, and Pa Point in front of our flat which we had fished off in the morning in what seemed to be about three metres of water by low tide in the afternoon had been left completely high and dry. On the sandy bottom in front all the species of *Cominella* were living - *adspersa, glandiformis, quoyana* and *virgata* - all perfectly clean specimens and, as with a lot of the shells on the Barrier, each had a nice yellow to orange tinge. Also in the mud were hundreds of live *Thais orbita,* mainly small but with an attractive dark band around the middle.

Out round Pa Point a few small rockpools remained at the low tides. One of my fishing sinkers lost in the morning looked back at me from a pool. Again a number of hermits were taking refuge in there. Particularly popular as a hat were lots of clean chocolate and orange-coloured *Duplicaria tristis* together, along with live *Marginella mustelina.* In the finer shell sand, caught up in the sand ridges, were *Epitonium tenella* and *E. jukesianum, Antisolarium egenum*, and *Microlenchus rufozonus.*

March 1 - we couldn't resist it, we had to go back to Whangapoua Beach! Another rental firm and a different car -this time we made it without mishap and, again, were the only ones on the beach. However, now, live *Mayena* and *Cabestana* seemed to appear out of the water on every rock. Had they been there the first time, and we just hadn't seen them? They seemed to blend in well with the seaweed. One *Cabestana* was just too perfect to be left behind, a magnificent orange-pink with a beautiful shiny aperture. My main interest, however, that day was *Philippia lutea* - were there more? While the tide was still up, I decided to float about the island, peering through the mask to see if there were any lurking on the sea floor. Just pick up anything small, I had decided, and that was what I did when I found one in only a metre or so of water, another hermit crab one. This interested Graham who needed only to be shown what I was looking for and out he went, a bit deeper and, within minutes, here was another, this time a large live one plus another hermit crab.

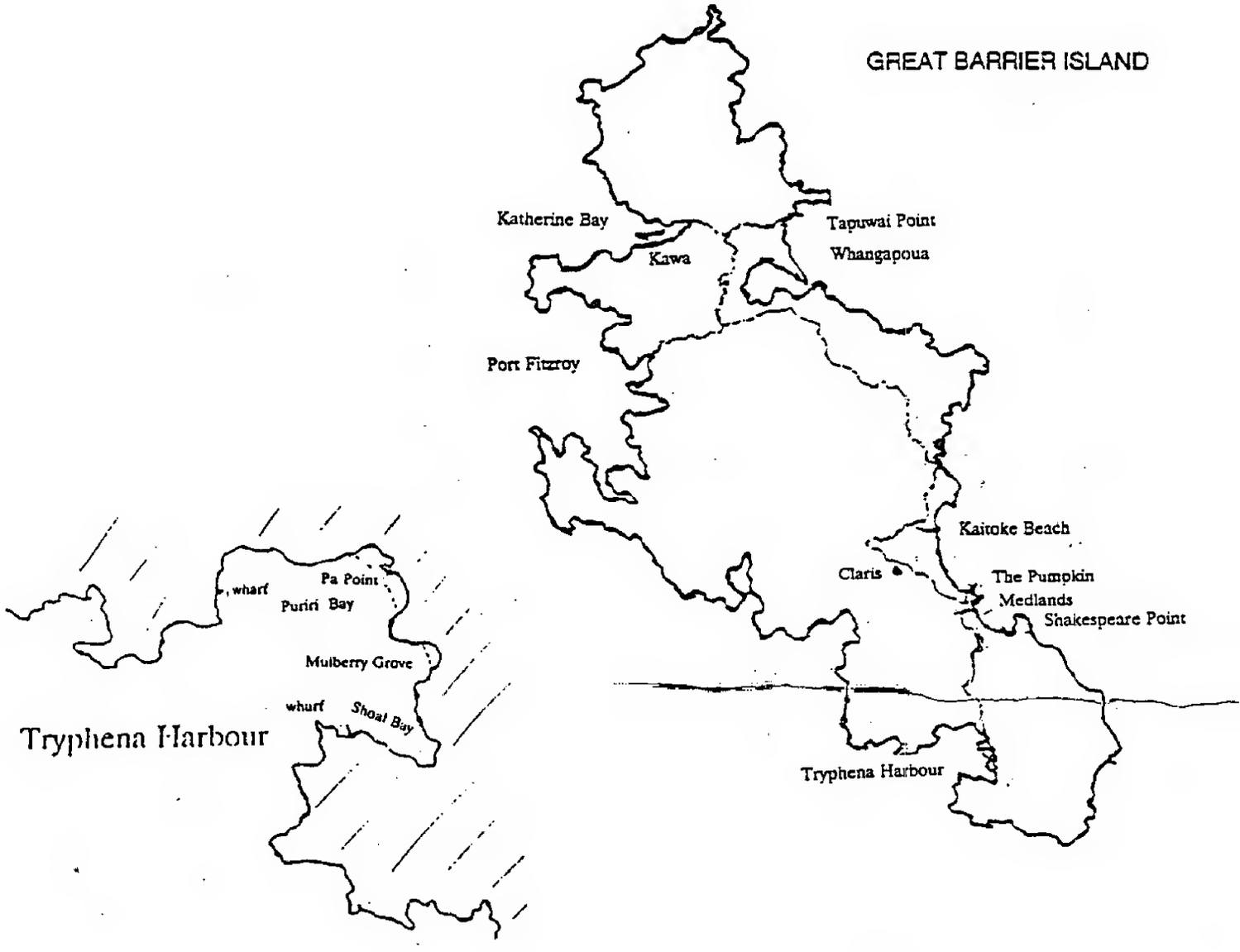
Back on the shore, with the tide down, I decided that these low tide pools and hermit crab haunts needed further investigation. This time I knelt down and there, encircling the base of every rock as the water receded from them, were hundreds of *Zeacolpus pagoda* inhabited by hermit crabs clinging tenaciously on. Occasionally a different shell was noted and, before long, two or three more *Philippia* - in fact, the secret was to run one's finger along the base and all the hermits would fall off exposing them to the sunlight annd what they were wearing. Spotting the orange *Philippia* was easy, about 10 being found that way.

We felt good, and happily drove back - that is until a steering pin broke just before we got to Claris. Darkness fell but, at least, the rental man quite happily responded to our phone call and drove over from Tryphena to rescue us, leaving yet another rental car abandoned for collecting by other than a shell collector another day.

Our last full day, and we decided that we had better explore the rest of Tryphena Harbour. As the tide dropped, we clambered out over the large rocks and round the headland separating Puriri Bay and Mulberry Grove. We passed the spot where earlier in the week Graham and I had watched a large kingfish swimming lazily round in quite shallow water. Of course, he could not be enticed by any of our bait. Out on the rocky point a *Charonia* sat out of the water on a large boulder. It was very eroded and almost unrecognisable but it was interesting to note that live ones could be found here. At Mulberry Grove, a small stream trickled out on to the shore, and we left Pat here engrossed in a small washup of *Melanopsis trifasciata, Marinula filholi, Neoguraleus sinclairi, Eatoniella lutea, Epitonium minora, Janthina exigua* and *Pecten novaezelandiae.*

At the beginning of the next headland, between Mulberry Grove and Shoal Bay, I found live *Buccinulum vittatum* and *Cardita brooksi* under the low tide rocks and very large *Lepsiella scobina* higher up. I became particularly engrossed in the live *Buccinulum,* and Graham left me to walk on round to Shoal Bay and, hopefully, link up with Pat. Hence we all got separated and never saw one another again during the afternoon. I went part way into Shoal Bay. Dead *Bulla quoyi* and *Cominella quoyana* were evidence of the increasingly muddier terrain. I decided to return and, one by one, we all linked up back at the flat.

The week was well rounded off with a very nice three-course plus meal at a licenced restaurant. Next day, a 35 minute flight dropped us back at Auckland airport, and about two hours later we were back in Wellington.



SOME MOLLUSCS FROM THE HIGH LITTORAL AT ISLAND BAY, WELLINGTON

By John Nunn

The small beach immediately north of the Island Bay boatshed looks and certainly smells very polluted. Much of this is attributable to fish offal. Nevertheless, the state of the beach has not outwardly affected the molluscs that live there. Some of the high littoral molluscs from this beach and north towards Houghton Bay are discussed below.

Lasaea maoria, a minute bivalve about 2.5 mm long, occurs on the underside of stones resting on wet mud or gravel. At the boatshed beach it is found on the stoney, muddy area at about high water mark. Further north, towards the Houghton Bay sewage outfall it occurs higher up the beach, at the storm water level as well as at the normal high tide level. This species is quite common at Island Bay and will certainly be found if looked for in the right zone.

Another locally-found species is *Lasaea rubra hinemoa*, but this occurs much lower down, from mid tide and below.

A species that takes a little more looking for is *Suterilla neozelanica*. In spite of much searching, I have not found it at the boatshed beach. However, John Marston told me that it could be found four or five hundred metres north where the beach is protected from all but storm tides by rock platforms. The area is about half way between Island Bay and Houghton Bay. I can now confirm John's advice as valid, having found live specimens in the area described, very much higher up the beach than our normal collecting activities. Specimens were on wet ground under stones and on the undersides of stones at the highest line of seaweed drift. The zone is characterised by *Salicornia* and *Selliera* plants.

Suterilla neozelanica is a small, globose, yellow-brown gastropod about 3 mm in diameter.

An interesting find, but hardly a desirable collector's item, was a species of *Smeagol* from the boatshed beach (actually the small beach about 20 metres north of it). *Smeagol,* first described by Frank Climo [*N.Z. Journal of Zoology* 7 (4): 513-522; 1980], represents an entirely new order of Mollusca. It looks like a small milky-white slug and, at the beach mentioned, occurs in colonies on the underside of large rocks deeply embedded in gravel above the normal high water mark. The animals soon head back for the dark when a rock is turned over. The appearance is one of slime mould on the move. Only for hardened collectors! The type species, *Smeagol manningi,* and, in fact, the type for the whole order, occurs, amongst other places, at Houghton Bay. The Island Bay species is, according to Bruce Marshall, different and is, as yet, taxonomically undescribed. I have not found either of these species of *Smeagol* at Lyall Bay, presumably because the right habitats are not there.

A common species from the boatshed north to the rock platforms is *Marinula filholi,* again from the *Salicornia* zone. I have found it most frequently under rocks that are deeply embedded in gravel. One could also expect to find *Leucanopsis obsoleta* but I only located one dead shell above the rock platforms and none near the boatshed. Lastly, the ubiquitous *Littorina cincta, L. unifasciata antipodum* and *Zeacumantus subcarinatus* are abundant.

Not too bad for a length of beach bounded by a road, a fish factory and a sewage outfall!

NUMBERED ROCKS AT CASTLEPOINT

By Jenny Raven

Castlepoint on the Wairarapa coast is my favourite "get away from Wellington for two days" spot. It seems to just get in on the sunny Hawkes Bay weather, the scenery is awe-inspiring and, sitting in a cabin on the cliffs above the sea, having a wine after dinner and listening to the waves with the beam of the lighthouse sweeping across the bay, is paradise .

It doesn't matter that the shell collecting is not brilliant at Castlepoint (other than fossils!) - there is much else of interest. I have, however, tried most collecting spots. I doubt that the sheer 30 metre drop into the raging tumultuous sea beyond the lighthouse has ever been explored by even the bravest of collectors; the skull and crossbones warning sign at the beach end of the reef is similarly offputting. The sandy bottom of the lagoon seems less profitable than the Desert Road, and by the time I've done my compulsory 3/4 hour climb up the back of Lion Rock to peer at the million foot drop on the other side I'm too tired to face the climb down and back to the beach on the southern side. The only time I did, there wasn't much there. I once made a precarious climb around the Lion's Paw in an attempt to reach the rocks on its seaward side only to find myself in a terrestrial moonscape fighting off monster tussock and sinkholes that threatened to swallow me up. The cave under the lighthouse on the beach side is, similarly, a mine of hidden dangers - pitch black, the din of the sea crashing in and slippery rocks rearing up in front of one. Last time I backed out the way I had entered, bravely fighting back three raging sea lions which had waited for me to fully enter the cave before launching forth in a tirade of roars from widely-stretched jaws filled with seemingly never-ending teeth!

Even the beaches at Castlepoint, for me, are devoid of shells. Only the area of the rocks on the landward side of the lighthouse seems to contain anything at all. I must admit I was there the day that Eric Scott's young daughter picked up a large, perfect *Maurea tigris* plus hermit crab in the shallows. I was also two steps behind (as usual) Peter Jamieson when he pounced upon the only two *Trivia merces* I've ever seen from the area.

It is to this quiet place that I usually return each year, particularly a spot just before the cave where a mudstone reef runs down from the lighthouse and out to sea leaving a number of rocks exposed at the low tide. Here I amuse myself by turning over the rocks and checking on the numbers of mainly *Buccinulum colensoi* that reside there along with the occasional *B. lineum*. There are, however, so few large liftable rocks that I almost know them off by heart. Imagine my surprise last year when, on lifting the first one in about 150 mm of water, instead of abounding shell life, I found a metallic number "6" - just like you put on your letterbox -stuck fast on the base of the rock. "Look at this!" I called to my friend - "How amazing that this number has somehow fastened itself on this rock". I turned over another - there was the number "9" ! This didn't seem right...

Suddenly, out of the water from the region of the cave, a monster appeared, wearing a wetsuit, a mask and a frown. It was carrying a clipboard. It was, however, friendly. "I'm from MAF", it said. "We recently liberated some baby crayfish under these rocks which we have numbered in order to check the populations". With that the monster was gone, not minding in the least if I carried on with my shell collecting. However, when I found that the next rock was numbered and the next one also, I began to lose interest - the place did not look the same - the sea bottom looked like it had undergone a springcleaning. My enthusiasm had gone, and I left.

Of course, I will go back. I wonder if the numbered rocks are still there and whether this sanctum for shells will return to its former glory. In some ways I just regard this as another one of the many adventures that Castlepoint has continued to provide me with over the years.

TOHEROA MIGRATION AT WAITARERE BEACH

By Ian Cooksley

The following account is a summary of a movement of Toheroa (*Paphies* (*Mesodesma*) *ventricosum*) observed on Waitarere Beach, Horowhenua, on 6 January 1990 at 1.30 p.m.

STAGE I: The Toheroa (size range 5 to 22 mm, established from random sampling) were positioned high up on the middle beach zone. When an incoming wave peaked high enough up the beach to reach them, they would "pop up" en masse. Prior to the water reaching them, the Toheroa were not visible.

STAGE II: The young Toheroa travelled on the retreating water on their sides with foot and siphon extended. Shell water depth and this foot/siphon extension helped them to slide with the retreating water rather than tumbling. The sliding action appeared to enable the Toheroa to take full advantage of the retreating water, with the distance travelled being some 5 to 6 metres.

STAGE III: As soon as the wave petered out, the Toheroa would immediately retreat into the sand. If they failed to bury themselves as soon as the water receded, they were observed rolling around, still not buried, several waves later.

NOTE ON *MONTFORTULA* (GASTROPODA: FISSURELLIDAE)

By John Nunn

In 1928 Finlay described *Montfortula chathamensis* from the Chatham Islands. In the same year, Miss Mestayer described *Montfortula lyallensis* based on a single beach-worn specimen reputedly from Lyall Bay, Wellington.

The Lyall Bay finding remained the only record of this genus from the New Zealand mainland until 1971, when Dell recorded *Montfortula* from the limestone rock platforms at Kaikoura. In the same paper he synonymised *M. chathamensis* and *M. lyallensis* with *M. rugosa* (Quoy & Gaimard, 1834), a species widespread around southern Australia.

Although he agrees that the holotype of *M. lyallensis* is conspecific with *M. rugosa*, Bruce Marshall (personal communication) considers that Mestayer's specimen is mislocalised. He has found that the Kaikoura and Chatham Islands specimens cannot be synonymised or even distinguished from *M. rugosa* using Dell's criteria. Instead, he finds that *M. chathamensis* can be distinguished on other criteria, and is therefore a distinct endemic species.

To date, the known distribution of *Montfortula chathamensis* is the Chathams and Kaikoura (Powell, 1979:38, fig.3.10). However, I recently collected two dead shells from beach drift at the western edge of The Sirens, Owhiro Bay, Wellington, which Bruce Marshall confirms as *M. chathamensis*. The exact locality is where the rock platform gives way to Owhiro Bay proper.

The place is very productive for limpets; I also found *Emarginula striatula*, *Tugali suteri*, several species of *Cellana*, *Radiacmea inconspicua*, *Patelloidea corticata*, *Gadinalea conica*, *Siphonaria australis* and *Benhamina obliquata* all in a short space of time. *Xymene traversi* is also common.

The records available indicate that *Montfortula chathamensis* favours intertidal pools at the middle and upper levels.

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ADVICE TO SHELL COLLECTORS - 1849 STYLE : A GLEANING FROM THE MANTELL PAPERS IN THE ALEXANDER TURNBULL LIBRARY, WELLINGTON

By Elliot Dawson

Walter Mantell (1820-1895) holds a distinguished place in the history of New Zealand, in public administration, in politics, and in science. The son of Dr Gideon Mantell, a medical man who excelled himself as a gentleman geologist and became a leading savant of his day being remembered for his oft-related and well-believed discovery of the first known dinosaur *Iguanodon,* Walter Mantell arrived in Wellington in January 1840 in the ship "Oriental". Within five years he had developed an understanding of the contemporary problems of the Maori people, and at the age of 25 was appointed "Commissioner for Extinguishing Native Land Titles in the Middle Island", his main task being to settle the problems of land purchase from the Ngai Tahu and to set aside Maori reserve land [this work was the subject of a special exhibition by the Alexander Turnbull Library from 11 July to 8 September 1990]. Another of his early titles was "Superintendant of Military Roads". A particular contribution to our knowledge now of those times is his documentation by notebooks and correspondence of his journey in the South Island in 1848, during which he made some important observations and collections in Natural History (Mantell, 1850) of which I will tell more later. He returned to England for a time in 1856 to seek assistance from the British Government in settling dishonoured land claims. He was later appointed Minister of Native Affairs and served on the Legislative Council. Of particular interest, also, is that, as one very much in the scientific circles of the day, he deputised on several occasions for Sir James Hector as Director of the Colonial Museum and Geological Survey during the latter's absences. He has claim to fame in being Wellington's second Postmaster from 1841 to 1844, rising to a remarkably brief eminence as Postmaster General from 6 to 21 August 1862 (Hurley, 1976). If one has any quibble with to-day's postal services, it is worth reading how Mantell operated the Post Office as he felt in the mood for it (Hurley, 1977). Mantell must have had some physical skills also since he collected the incoming mail from the ships lying in the Wellington roadstead by paddling out in a strange 31-foot narrow, sharply-sheared canoe, a virtual forerunner of to-day's surfboard (see description and illustration given by Best, 1925: 185, fig. 90). This curiously-odd craft is now on display in the Maori Hall of the National Museum of New Zealand.

Walter Mantell carried on his father's interests in natural history in the new colony, and there is much documentation now about his intentions to recoup his expenses (and achieve, as his father hoped, some local fame to move upwards in the Public Service) by being a provider of natural history objects for those who wanted such things; and, to a degree, he succeeded in this, although scientifically rather than financially. His large collections of moa bones, for example, sent home to his father and passed to Professor Richard Owen, leading anatomist and British Museum director of the time, provided the material on which Owen based his famous series of Memoirs describing *Dinornis* and other extinct New Zealand birds. In 1847 he qualified as New Zealand's first archaeologist by making an examination of Maori middens at the mouth of the Waingongoro River in Taranaki which, as I will show later, have an interesting link with a New Zealand shell commemorating Walter Mantell. One of the highlights was the finding of bones of what was considered to be the forerunner of the Takahe. These remains were described by Owen under the name *Notornis mantelli* [now *Porphyrio mantelli mantelli*]. Later, Walter Mantell secured the first two specimens of the living Takahe, subsequently described as *Notornis hochstetteri* [now *Porphyrio mantelli hochstetteri*]; the 1849 specimen is in the Natural History Museum [i.e. the British Museum (Natural History)] in London and the other is in the National Museum of New Zealand. Andrews (1986:134-136, 141-145, 145-150) has given readable summaries of Gideon Mantell's relationships with Richard Owen, and of Walter's explorations at Waingongoro and the discovery of the Takahe in Fiordland.

There is a great deal of highly interesting and historically significant material in the Alexander Turnbull Library in Wellington which awaits the attention of the historian of the Mantells, father and son, and their times. Within the past few years various visiting practitioners of the History of Science have stressed the uniqueness of Turnbull's Mantell Collection and its significance in the history of geology, not merely in colonial New Zealand but in the English-speaking world as it was then dominated by the giants of the day such as Richard Owen. A preliminary assessment of the Mantell manuscripts in the Turnbull has been given by Dean in 1979 and by Henry and Hoare in 1982 at the time of a special conference on the history of science

organised by the Turnbull Library and the Royal Society of New Zealand. Less well known, however, is the fact that the National Museum of New Zealand possesses many of Gideon Mantell's specimens on which he based his writings and illustrations for the numerous classic geological texts which he published (e.g. as listed by Dean, 1979:121). The *pièce de résistance* of these is the original Iguanodon tooth which gave rise to the legend of Mantell's claim as the discoverer of the first dinosaur (the first Iguanodon teeth [two of which are now in the National Museum of New Zealand] from Mantell's fossicking site were actually found by Mrs Mantell in 1822 who unwittingly thus accelerated her husband's career but, eventually estranged herself matrimonially because she felt crowded out of their home by the fossils which literally filled every room finally turning it into a public museum). Although the dinosaur as a newly recognised prehistoric animal was, in fact, made famous by Gideon Mantell, and more particularly by Owen, and, as we all know, has lived on in absolutely innumerable children's books, models, travelling exhibitions, T-shirts, gimmickery and knickknacks *ad nauseam* [What would museums and/or children's authors do if dinosaurs had never been?], it is sad to relate now that (*fide* Serjeant, 1977) Gideon Mantell was neither the first to discover a species of dinosaur, that claimant being one Robert Plot, Keeper of the Ashmolean Museum in Oxford, as early as 1677, nor the first describer, the claimant to the priority of scientific description being William Buckland (1784-1836), first Professor of Geology at Oxford.

All this may seem a long way from our interests in the Mollusca, but several matters of interest to conchologists lie amongst the Mantell Collection in the Turnbull Library (and there are, doubtless, more yet to be unearthed).

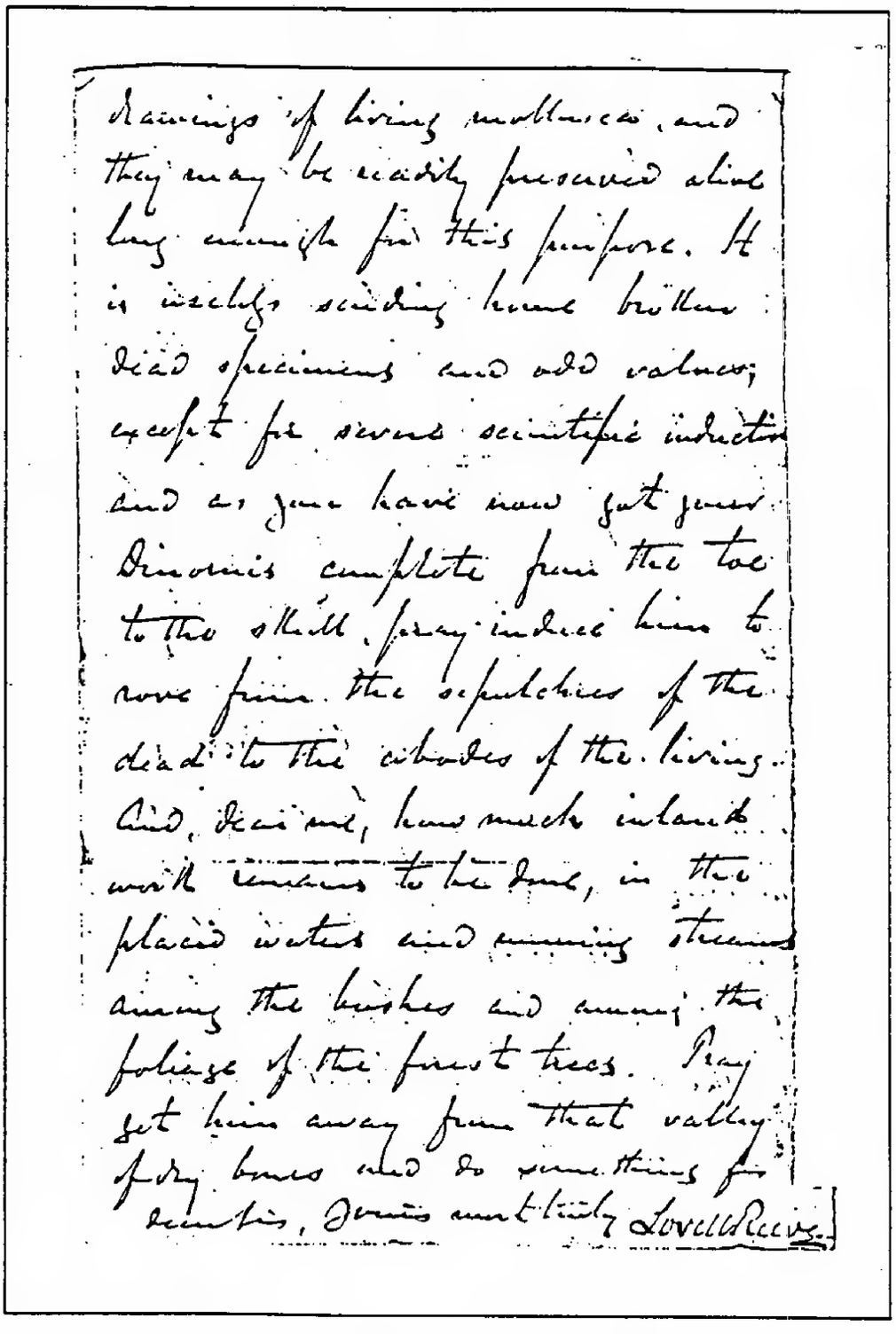
One particular document, not specifically catalogued as part of the Mantell holdings, which I found by chance while using the library's copy of the rather rare book "The Zoology of the Voyage of H.M.S. 'Samarang' " is a letter (written on a folded sheet of embossed crested notepaper about 175 x 220 mm giving four pages of close handwriting) signed by Lovell Reeve, the well-known 19th century conchologist and publisher. The date "1849" has been added in pencil subsequently by some, as yet, unidentified person. The letter is addressed to an unknown correspondent " My Dear Sir ...". It seems clear, however, that it was sent to Dr Gideon Mantell in response to a request for identification of shells sent from New Zealand by Walter Mantell, and that the book in which I found it was probably sent to Walter Mantell in New Zealand after his father's death in November 1852. It is known that the residue of Gideon Mantell's estate, including his books, manuscripts and some specimens, at least, were disposed of by another son, Reginald, who took much of this with him to India. On Reginald's death in 1857, this material eventually went to Walter in Wellington whence it finally found its resting place, in due course, in the Alexander Turnbull Library [and the National Museum of New Zealand], having been bequeathed, about 1927, by the widow of Walter's son. There is no direct proof in the actual copy of the "Samarang" that it was part of Gideon Mantell's library but the evidence for his ownership is acceptably circumstantial. Dr John Yaldwyn has kindly allowed me to mention his discovery that many of Walter Mantell's books (including those with his father's name in them) were marked with his Maori name "Matara" being embossed on the end papers. The "Samarang" has no such markings.

The book in which this letter lives (inserted at the front of the report on the Mollusca), the account of the scientific results of the voyage of H.M.S. 'Samarang', is a valuable and rather rare classic of 19th century expedition reporting. The men of the 'Samarang' surveyed an extensive part of the then little- known [and even to-day still incompletely explored] seas of the Far East, sampling the seafloor and its animal life from Java and Timor to Borneo, Celebes, through the Philippines to the Ryu-Kyu Islands [then known as the "Loo-Choo" Islands] to Korea and Japan, returning homewards past the Great Barrier Reef,and the Cocos Islands, across the Indian Ocean to Mauritius and South Africa, dredging on the famous Agulhas Bank. Students of the Brachiopoda, especially of Japanese and South African species, need to turn to the illustrations in the 'Samarang' reports for details of newly described species.

The second point of interest to students of the New Zealand Mollusca that lies in this Mantell book is the detailed account by Adams and Reeve of the anatomy of the cephalopod *Spirula spirula*, hitherto little known because of the rarity of shells with soft parts preserved. Their study is largely based on a specimen of "*Spirula australis*" from New Zealand in the collection of Hugh Cuming (and illustrated on their Plate IV) and on another entire animal collected in New Zealand by Percy Earl. There is also a passing reference (on page 80)

to specimens of *Lucina* from New Zealand in the Cuming Collection.

The original letter is not too easy to decipher but I've done my best (as follows); however, the very last word of it I just can't work out. I suspect it makes a good "punchline" , so it would be interesting to know what it is. Here's a copy of the last page; no prizes for solving the mystery but it might keep a reader occupied on a long winter evening!



dawings of living molluscs, and they may be readily procured alive by a month for this purpose. It is exactly so with home bullers dead specimens and odd values; except for severe scientific inductio and as you have now got your Dinomis complete from the toe to the skull, pray induce him to move from the sepulchres of the dead to the abodes of the living. And dear me, how much interest with remains to be found, in the placid waters and running streams among the bushes and among the foliage of the forest trees. Pray get him away from that valley of dry bones and do something for Conchs, Dear Mr Cuming Yours truly Lovell Reeve

Anyway, here is my version -

King William Street,
Strand, [1849]

My Dear Sir,

None of these shells are identical with European or American species, nor with African unless an exception can be made in favour of a small Purpura which seems to agree with P. succinata from the Cape of Good Hope. They only afford additional testimony if any were needed of the very distinct character of the fauna of our antipodes. I doubt if there are any species here, but what may be found alive on the coast. Little is known of the Mollusca of New Zealand beyond those that have been collected by MM Quoy and Gaimard during the voyage of the Astrolabe under the command of the unfortunate Dumont D'Urville. As proof of what may be done with a very little trouble in these southern temperate regions I should like to show you a small consignment of shell I have received from Mr Ronald Gunn of Van Diemens Land, collected about Circular Head and the islands of Hunter's Group, many of which are new, and nearly all rare. I would strongly urge upon Mr Walter Mantell to try some good shore work, turning up stones at low water, digging into sand, diving into crevices, wading amongst fuci, and particularly dredging in ten to thirty fathoms water. From the look of these shells I should imagine he had little to do with salt water. M. Quoy made many interesting drawings of living mollusca, and they may be readily preserved alive long enough for this purpose. It is useless sending home broken dead specimens, and odd valves, except for severe scientific induction and as you have now got your Dinornis complete from the toe to the skull, pray induce him to move from the sepulchres of the dead to the abodes of the living. And, dear me, how much inland work remains to be done, in the placid waters and running streams among the bushes and among the foliage of the forest trees. Pray get him away from that valley of dry bones and do something for [-?-]

Yours most truly,

Lovell Reeve

There may be a message in this letter for the naturalists of the 1990s also. There is STILL so much to do ...

Reeves's exhortation does not seem to have inspired Walter Mantell over much for, apart from a couple of new species named after him, there does not appear to be any major collection of shells existing in New Zealand (or, so far as one can infer, in the Natural History Museum in London) which might have been made by him (*cf.* [Hamilton, 1906]). Those dry bones must have had greater appeal!

However, Walter Mantell was responsible for providing the material for the first illustrations made of New Zealand fossil molluscs. His father's paper of 1850 reported on collections Walter had made on his South Island trip of 1848 which included fossils from the limestones and "newer Tertiary Blue Clay" of South Canterbury and North Otago . Gideon Mantell stated that his identifications had been been made with the assistance of "Mr. J.E. Gray, Mr. Lovell Reeve, and Mr. Morris". Notable amongst these specimens is a brachiopod described by Morris in Mantell's report as "*Terebratula Gualteri*, nov. spec."("I have named it *Gualteri* in honour of the discoverer, Walter Mantell, Esq."). This brachiopod is now known as *Aetheia gualteri* (Morris, 1850) has been the subject of an intensive study by Dr Daphne Lee of Otago University (Lee, 1978) based on some 2000 specimens collected from 40 localities. It has a remarkable time range, extending over some 25 million years from the Bortonian Stage (Middle Eocene) of the Tertiary, 47 million years ago, to the Altonian Stage (Early Miocene) about 20 million years ago (Dawson, 1990:9, 18-19). The type specimen appears to be lost, so Lee proposed a neotype to replace it. She has also narrowed down the type locality considerably from Mantell's general allocation to the Ototara Limestone of northern Otago (as shown on his figure on page 320): "Mantell's specimen was almost certainly collected from an overhang in the Totara Limestone escarpment about two kilometres south of Trig M ..." [i.e. from grid reference J 41/445622, NZ Topo. Map Series 260, 1:50,000] which lies some three kilometres south of Oamaru township. Other fossils illustrated in Mantell's report (Plate XXVIII) as "*Turritella rosea*, Quoy" (figs 16-17) and "*Dentalium*, an undescribed, finely striated species" (fig. 15) are now recognisable (according to Fleming, 1965:1156) as *Zeacolpus* (*Z.*) *vittatus* (Hutton, 1873), *Z* (*Stiracolpus*) *delli* Marwick, 1957) and *Dentalium centenniale* Marwick, 1942. And these are, indeed, the first pictures of New Zealand fossil shells - to the credit of the Mantells! Reporting on the the collections made during the voyage of the Austrian frigatte 'Novara', Zittel (1864) included fossils collected by Walter Mantell. The species of *Dentalium* illustrated by Gideon Mantell in 1850 was described by Zittel (p.45, pl. XIII, fig.7) as *Dentalium mantelli* based on specimens from The Cliffs (Nelson), the Awatere Valley and Onekakara [now known as Hampden Beach]. The Onekakara specimen was subsequently separated by Marwick in 1942 as *Dentalium centenniale*, a new species, the name commemorating the 100 years that had elapsed since Walter Mantell collected it. [The Nelson and Marlborough shells still remain as *D. mantelli* Zittel, 1864). Incidentally, Sherborn's "Index Animalium" which lists all the new scientific names of animals proposed from 1758 to 1850 gives 44 species (from 1801 to 1850) called *"mantelli"* or *"mantellii"*. Most, if not all, commemorate Gideon Mantell (Sherborn, 1928:3854). And to save readers from chasing further, *Anomia walteri* [now = *A. trigonopsis* Hutton, 1877] described by Hector (1895)from Pahia, Bay of Islands, does not commemorate son Walter but as noted: "A large number of specimens of this very beautiful shell were collected by Thomas Walter, Esq., to whom the species is dedicated. The same sea-beach is famous for the frequent occurrence of the rare and interesting shell *Murex angasi*"].

Mantell's other new shell has an intriguing history in that it links conchology with the pursuit of the "dry bones". This species was originally described and illustrated by Woodward, at the British Museum, in 1859: "The little shell for which I propose the name of *Scissurella mantelli* was found in a sample of "Menaccanite" sand, collected in New Zealand by Mr. Walter Mantell." He added - " The specimen has been in my possession several years ..." . Nearly a 100 years later, Fleming (1948) described and figured a shell collected during the DSIR Fiordland Expedition in the 'New Golden Hind" in February 1946 as *Schizotrochus mantelli*, stressing that comparison of Woodward's original specimen with the Fiordland shell would be necessary to establish some apparent differences which he had found but - "All told, it seems best to use *mantelli* to cover the form here figured". Subsequently, Fleming (1951: 136) reported that he had been unable to find the type of *S. mantelli* in the British Museum (Natural History) during his visit in October 1948, and he noted: "Until such time as the type is located, a specimen in the Geological Survey collection figured by Fleming (Trans. Roy. Soc. N.Z. 77, pl. 8, fig.3) may be designated neotype." Powell (1979:36) has included Mantell's species now in the genus *Anatoma* [a name also proposed by Woodward in 1859]. Pilsbry (1890: 54, pl. 57, fig.12) reproduced Woodward's description and figure. Fleming (1948:84) noted: "These are the available sources of information

on a species which was based on a single specimen from "New Zealand" and has not been recognized since ..." Why Fleming singled out Pilsbry as the only reproducer of the original description and/or figure is not clear [except, perhaps, by reference to his preceding remarks on an apparent confusion with another species, *Schizotrochus regius* (Mestayer, 1916), which also was collected on the 'New Golden Hind' expedition]: these have been repeated by Hutton (1880:13) who noted that the shell had been found "among iron-sand" and by Suter (1913:88-89, pl.6, fig.10) who noted- "Found among ironsand from New Zealand (W. Mantell)".

Walter Mantell's most interesting contribution to New Zealand conchology may merely have been to create a mystery {or a challenge?}!

Let us now return to Woodward's original comment - "...found in a sample of "Menaccanite" sand, collected in New Zealand by Mr. Walter Mantell". Menaccanite [also written as mechanite or manaccanite] is a variety of ilmenite found as a sand near Manaccan (Menacha) in Cornwall (Bates & Jackson, 19876:410). Ilmenite is an iron-black mineral, an iron/titanium oxide, a principal ore of Titanium (Dana, 1948), often concentrated in beach sands (and notably so on New Zealand western coasts).

In his description of the deposits in Taranaki where Walter Mantell collected Moa bones and associated material, Gideon Mantell (1848:230) noted that they were imbedded in "a loose volcanic sand, containing magnetic iron, crystals of hornblende and augite, *&c.*, ... A very few water-worn pebbles of volcanic rocks were the only extraneous bodies found in the sand; there were no vestiges of shells of mollusca of any kind ...". Lydekker's (1891) catalogue of fossil birds in the British Museum details bones collected by Walter Mantell at the Taranaki site, described as coming from "the manaccenite beds of Te Rangatapu, near Waingongoro". In another place, G. Mantell (1851: 101) referred again to the bones being imbedded in "a loose volcanic sand (termed menaccanite) containing titanifereous iron, crystals of hornblende and augite, etc. ...". In their report on new excavations at this historic site of Waingongoro, Buist & Yaldwyn (1960: 85-86) confirmed G. Mantell's description of the matrix in which the bird bones occur and with which their cavities are filled as the "'characteristic, loose, black "Taranaki ironsand" (the menaccanite of Mantell)."

The term " menaccanite" [or any of its variants] has not been widely used in New Zealand in the post-Mantell era. One of the first early reviews of the mineral resources of New Zealand (Cox, 1882) lists menaccanite only from a terrestrial deposit at Brancepeth in the Wairarapa and does not use the word in relation to beach sands. Black sandy beaches are extensively developed along the west coasts of both islands of New Zealand, but there is an interesting difference as noted between the deposits of each island (Cox,1882: 440; Nicholson *et al*, 1958). The beaches and coastal dunes from Kaipara Harbour to Wanganui are derived from andesitic volcanic rocks and are rich in titanomagnetite with about 58% soluble iron and about 9% titanium dioxide. In contrast, west coast South Island blacksand deposits are derived from the erosion of granite and are rich in ilmenite with about 45% titanium dioxide. Accordingly, each kind of sand has different industrial applications. From the Natural History point of view, it should be possible, therefore, to localise a bone or shell from sand grains if such were still to be found in it [cf. Wright, 1964]. *Anatoma* [*Schizotrochus*] *mantelli* is, however, a tiny shell so, even if the type is ever found, there is unlikely to be any sand still adhering [in contrast to Mantell's British Museum bones some of which still have their black matrix].

It seems clear, then, that Woodward received his sample of the ironsand, at that time called "menaccanite", from Walter Mantell's collections made at Waingongoro [despite Gideon Mantell's comments on the lack of shell remains in the sand]. Accordingly, the "type locality" for *Anatoma* [*Schizotrochus*] *mantelli* can most probably be narrowed down to this Taranaki beach. The locality at which Fleming's neotype was collected ("New Golden Hind" Station 80, Dagg's Sound, Fiordland, 105 metres) is quite in contrast. So here is challenge for an enterprising conchologist in Taranaki. Sift the Waingongoro sands and you may come up with a genuine *Anatoma mantelli !*

Walter Mantell's other claim to fame, so far as molluscs are concerned, is that he was instrumental in securing for the Colonial Museum [now the National Museum of N.Z.] part of the shell collection of William Swainson (the celebrated English naturalist who, like Mantell himself, emigrated to New Zealand in 1840 but lies in the St James's churchyard in Lower Hutt largely unremembered). However, Swainson's shells are, apparently, not now recognisable as such (McMillan, 1980:430-431).

The Mantell story is a fascinating one, interwoven with the lives of many other 19th century men of science such as William Swainson and Samuel Stutchbury and, of course, Richard Owen. The following items, used in the preparation of these notes may stimulate readers into further enlightenment on this particular chapter of the history of New Zealand science and its makers.

ACKNOWLEDGEMENTS

I am indebted to the Reader Services Librarian, Alexander Turnbull Library, Wellington, for permission to reproduce the text of the letter by Lovell Reeve. The cost of this paper was met by the Hutton Foundation.

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CLUB FIELD TRIP, WHITIREIA PARK, ONEHUNGA BAY, 25 APRIL 1990

1. NARRATIVE

By Jill Burnet

When we found that Anzac Day fell on the day before our usual meeting night, this seemed to be a marvellous opportunity for a Club field trip, and so it proved. Being a mid-week holiday, people didn't have their usual weekend committments. Being right before the meeting meant that we could follow up while interest was still high, and, also, that those members of the Club from further afield, such as Palmerston North and Wanganui, could make one trip out of it.

The area chosen was Whitireia Park, Onehunga Bay, on the Titahi Bay peninsula. It was reasonably handy for all members, gave a range of types of habitats for collecting in, and, as well, Jenny Raven had previously collected there and had found it interesting.

Jenny, then, was our trip leader, and she put a good amount of preparation into it together with our librarian Pat Lakeman. Jenny made a map of the area, marking off three distinct collecting zones; Pat found and copied articles from various issues of *Cookia* and *Poirieria* which related to collecting in the Wellington/Porirua region, sending these to members beforehand. Time was set aside at the preceding monthly meeting to discuss the forthcoming trip, and those members who had been there before gave us an idea of what might be found.

For a while we thought the weather was against us - it poured with rain on the Tuesday but the Wednesday was fine and warm although overcast. Low tide was at 3.20 p.m., and most members arrived about 1 p.m. and had picnic lunches on the grass in front of the car park. Several members brought their families, and this was a good opportunity to socialise. One very small, endearing puppy was an instant hit with all the children, not to mention the adults.

The shell hunting was relaxed and informal, people setting off in small groups, some going one way, some the other, although mostly staying within Zone B. Don Watson brought his boat from which he dredged and dived. However, he reported that, because of the heavy rain the day before, the water was very murky and not good for diving. Nonetheless, the find of the trip was his - a *Cabestana waterhousei* [now known as *C. tabulata* following Beu in *Cookia* 6 (1); 1985].

At the Club meeting the next evening, Jenny started on the job of compiling a complete list of all the species found on the trip [i.e. from Zone B]. Of course, some of us had our lists ready, some hadn't had time to sort their specimens, some had identification problems, so the meeting became very lively and noisy. Work on compiling the list continued over the next two months, and it now appears in this issue of *Cookia* under Jenny's hand.

The trip generated a good deal of enthusiasm amongst members of the Club. We had an excellent turnout both on the trip and at the meeting, and we were particularly pleased to have our Palmerston North members (who don't usually get along to meetings). It was one of the most successful club trips we have had for some time, and thanks must go to Jenny Raven for her work in making it so.

CLUB FIELD TRIP, WHITIREIA PARK, ONEHUNGA BAY, 25 APRIL 1990

2. SHELL LIST

By Jenny Raven

The following is a complete listing of the Club's finds during the field trip to Whitireia Park on 25 April 1990.

The collecting area was divided into three zones:

'A' - being the inner harbour, mainly muddy bottom;

'B' - being Onehunga Bay vicinity, sandy bottom;

'C' - being the open sea region.

A plan defining these zones was snt to members in advance of the trip. As it turned out, all collecting on the day was done from Zone B. Low tide (height, O.O m) was at 3.20 p.m., and the day was sunny and calm. There was something to satisfy all interests (including hang-gliding for the more adventurous!). Most members had a go at sieving the sand and shell that Don Watson dredged up from his boat, some were content to stroll along the shoreline examining the washups whereas others involved themselves in more strenuous activities by exposing leg and thigh to turn over boulders in low tide pools, washing seaweed or going through shell sand at close quarters.

The highlight was obviously the live *Cabestana waterhousei* [i.e. *tabulata*] collected by Don Watson while diving in murky conditions off a reef to the north of the bay in about 3 metres of water. Alan Beu now has the specimen in the collection of the N.Z. Geological Survey. *Chlamys dieffenbachi* was found attached to the undersides of large rocks in the pools, along with clean and brightly-striped *Buccinulum* in the detritus underneath. Occasionally a white/yellow *Buccinulum* (*sufflatum* form) was found with live *Penion* in reasonable condition. Live *Maoricolpus, Amalda* and *Nucula* were common in the sievings, but nothing of great note was found among the washups. *Maoricolpus* abounded, and tantalising fragments of *Maurea tigris* as well as some of the Cymatiidae occurred, indicating perhaps better pickings after a storm.

This list [which only includes those species collected from Zone B] now provides a reference for any future collections which the Club may make in this area. It should not, however, be equated with other lists in Club publications dealing with Porirua Harbour or Pauatahanui since these cover quite different regions. It would important, in the light of current concern for the effects of climate change and sea temperature rises, to be able to repeat our sampling of such sites on a regular basis.

KEY: * found live
D dredged 5 to 8 feet
SW seaweed washings
Sc scuba dived

AMPHINEURA

027 *Amaurochiton glaucus*

GASTROPODA

034 *Sinezona brevis* *
034 *Sinezona laqueus* *
034 *Haliotis iris* *
036 *Haliotis australis*
038 *Haliotis v. virginea*
040 *Scutus breviculus* *
040 *Tugali s. suteri* D
042 *Cellana denticulata* *
043 *Cellana ornata*
043 *Cellana radians* *
044 *Cellana stellifera* (+ *phymatius* form)

045 *Radiacmea inconspicua*
046 *Patelloida corticata*
047 *Notoacmea pileopsis sturnus*
048 *Notoacmea daedala* * D
049 *Atalacmea fragilis* *
052 *Herpetopoma bella* D
052 *Melagraphia aethiops* *
053 *Diloma nigerrima* D
053 *Diloma subrostrata* D
054 *Diloma bicanaliculata lenior*
054 *Cantharidus o. opalus*
055 *Cantharidus purpureus*
056 *Micrelenchus dilatatus* D
057 *Micrelenchus s. sanguineus*
057 *Micrelenchus tenebrosus*
057 *Cantharidella tesselata* * D
058 *Trochus viridis*
058 *Trochus tiaratus* * D
060 *Maurea t. tigris*
061 *Maurea p. pellucida*
062 *Maurea punctulata*
065 *Umbonium zelandicum*
066 *Turbo smaragdus* *
066 *Modelia granosa*
067 *Cookia sulcata* *
078 *Liotella polypleura* *
080 *Nerita atramentosa melanotragus*
087 *Littorina cincta*
087 *L. unifasciata antipodum* *
088 *Risellopsis varia*
089 *Eatoniella* (*Abscindostoma*) *lutea* D
092 *Eatoniella* (*Dardanula*) *limbata* D
092 *Eatoniella* (*Dardanula*) *olivacea* *
095 *Rissoa hamiltoni* D
103 *Estea* [*Pisinna*] *zosterophila* *
105 *Scrobs hedleyi* *
106 *Rissoina chathamensis* D
108 *Merelina lyalliana* D SW
122 *Potamopyrgus antipodarum*
125 *Maoricolpus r. roseus* * D
127 *Zeacolpus* (*Stiracolpus*) *delli* D
130 *Siliquaria maoria*
131 *Zeacumantus lutulentus*
131 *Zeacumantus subcarinatus*
142 *Struthiolaria papulosa*
148 *Sigapatella novaezelandiae*
149 *Zegalerus tenuis*
149 *Maoricrypta monoxyla* *
154 *Tanea zelandica*
164 *Cabestana waterhousei* [= *tabulata*] * Sc
164 *Cabestana spengleri*
166 *Argobuccinum tumidum*
166 *Mayena* (*Ranella*) *a. australasia*
174 *Zeatrophon* (*Xymene*) *ambiguus*
179 *Thais orbita* *
180 *Lepsiella s. scobina* *
180 *Haustrum haustorium* *
192 *Cominella adspersa*
192 *Cominella maculosa* *
192 *Cominella glandiformis*
192 *Cominella virgata*
196 *Austrofusus glans*
198 *Buccinulum l. linea* * (+ *sufflatum* form *)
200 *Penion sulcatus* *
208 *Amalda* (*Baryspira*) *australis* * D
208 *Amalda* (*Baryspira*) *depressa*
209 *Amalda* (*Gracilispira*) *novaezelandiae*
211 *Alcithoe arabica*
216 *Austromitra rubiginosa*
222 *Marginella* (*Volvarinella*) *cairoma*
238 *Neoguraleus l. lyallensis*
238 *Neoguraleus sinclairi* D
238 *Neoguraleus murdochi*
241 *Liracraea odhneri*

246 *Duplicaria tristis*
251 *Epitonium minora*
257 *Turbonilla* (*Chemnitzia*) *aoteana* D
258 *Turbonilla* (*Chemnitzia*) *zealandica*
259 *Turbonilla* (*Striarcana*) *cryptolira* D
265 *Agatha georgiana*
265 *Linopyrga rugata* D
292 *Siphonaria zelandica* D
294 *Amphibola crenata*
295 *Leuconopsis obsoleta* *

BIVALVIA

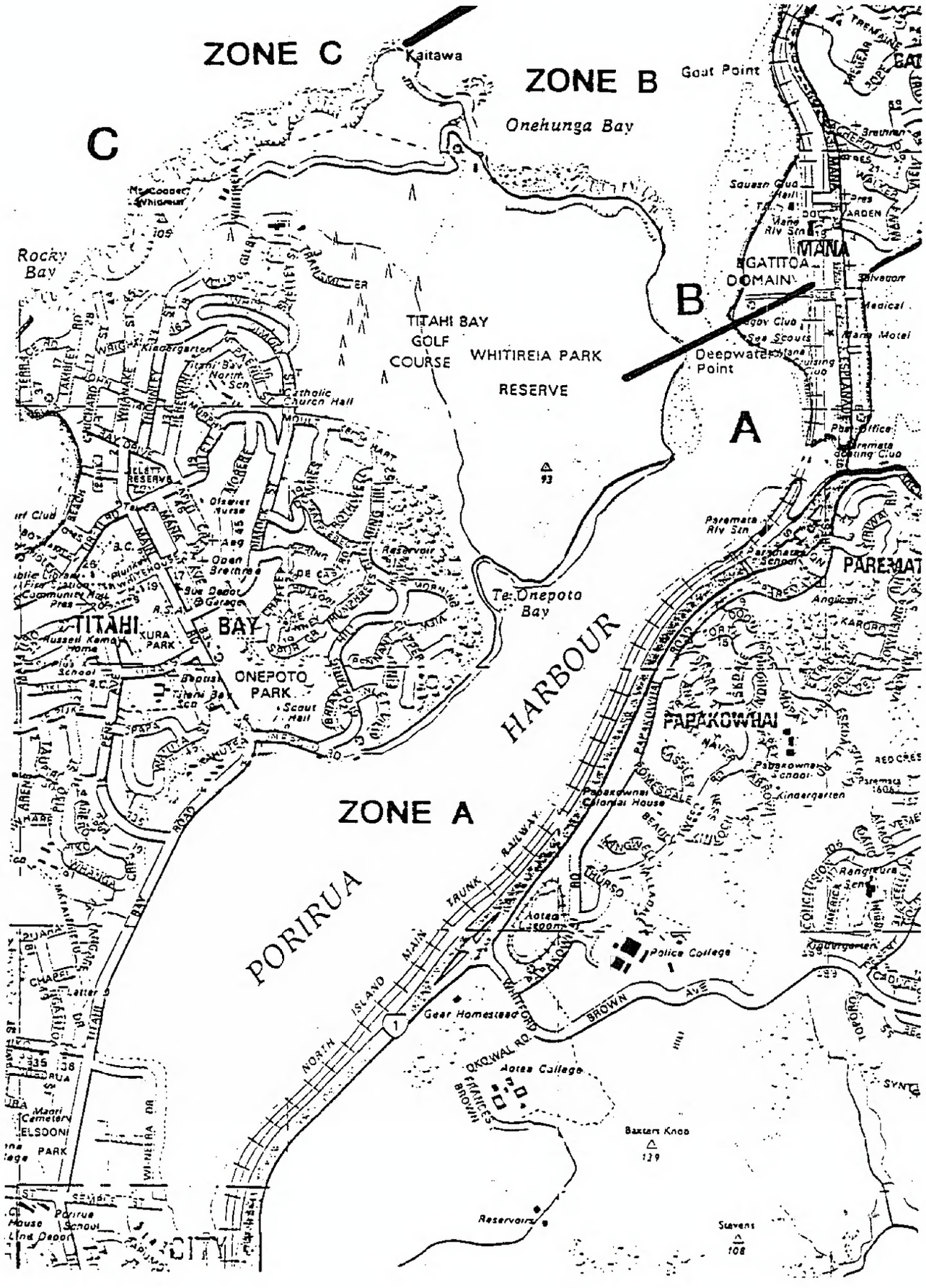
356 *Nucula hartvigiana* * D
356 *Nucula nitidula* *
363 *Solemya parkinsoni*
364 *Barbatia novaezealandiae*
366 *Glycymeris* (*Glycymerula*) *modesta* D
372 *Mytilus edulis aoteanus* D
372 *Perna canaliculus*
372 *Aulacomya ater maoriana*
373 *Modiolus areolatus*
373 *Xenostrobus pulex* *
374 *Modiolarca impacta*
374 *Lithophaga truncata*
375 *Atrina zelandica*
375 *Ostrea lutaria*
378 *Chlamys dieffenbachi* *
378 *Chlamys zeelandona*
383 *Monia zelandica*
386 *Divaricella huttoniana*
388 *Diplodonta* (*Zemysina*) *striatula* D
389 *Melliteryx parva* *
389 *Lasaea rubra hinemoa* * D
391 *Borniola reniformis* * D
391 *Arthritica bifurca*
403 *Neolepton antipodum* * SW
407 *Venericardia purpurata*
414 *Scalpomactra scalpellum* D
416 *Paphies* (*Mesodesma*) *s. subtriangulata*
417 *Tellina* (*Peronidia*) *gaimardi*
417 *Tellina* (*Macomona*) *liliana*
418 *Zearcopagia disculus*
418 *Gari lineolata*
418 *Soletellina nitida* D
420 *Leptomya retiaria* D
423 *Dosinia* (*Phacosoma*) *subrosea* D
423 *Dosinia* (*Austrodosinia*) *anus* D
424 *Tawera spissa* D
425 *Protothaca crassicosta* *
425 *Notirus reflexus*
426 *Venerupis* (*Paphirus*) *largillierti*
426 *Chione* (*Austrovenus*) *stutchburyi*
427 *Dosina zelandica zelandica*
427 *Bassina yatei*
428 *Corbula* (*Anisocorbula*) *zelandica*
428 *Hiatella arctica*
431 *Cleidothaerus albidus*
432 *Myadora striata* * D
433 *Offadesma angasi*

CEPHALOPODA

439 *Spirula spirula*

BRACHIOPODA

Terebratella (*Waltonia*) *inconspicua*


ZONE C
Kaitawa
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Goat Point
Onehunga Bay
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Rocky Bay
TITAHI BAY GOLF COURSE
WHITIREIA PARK RESERVE
Deepwater Point
MANA
PAREMATA
Te Onepoto Bay
HARBOUR
TITAHI BAY
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